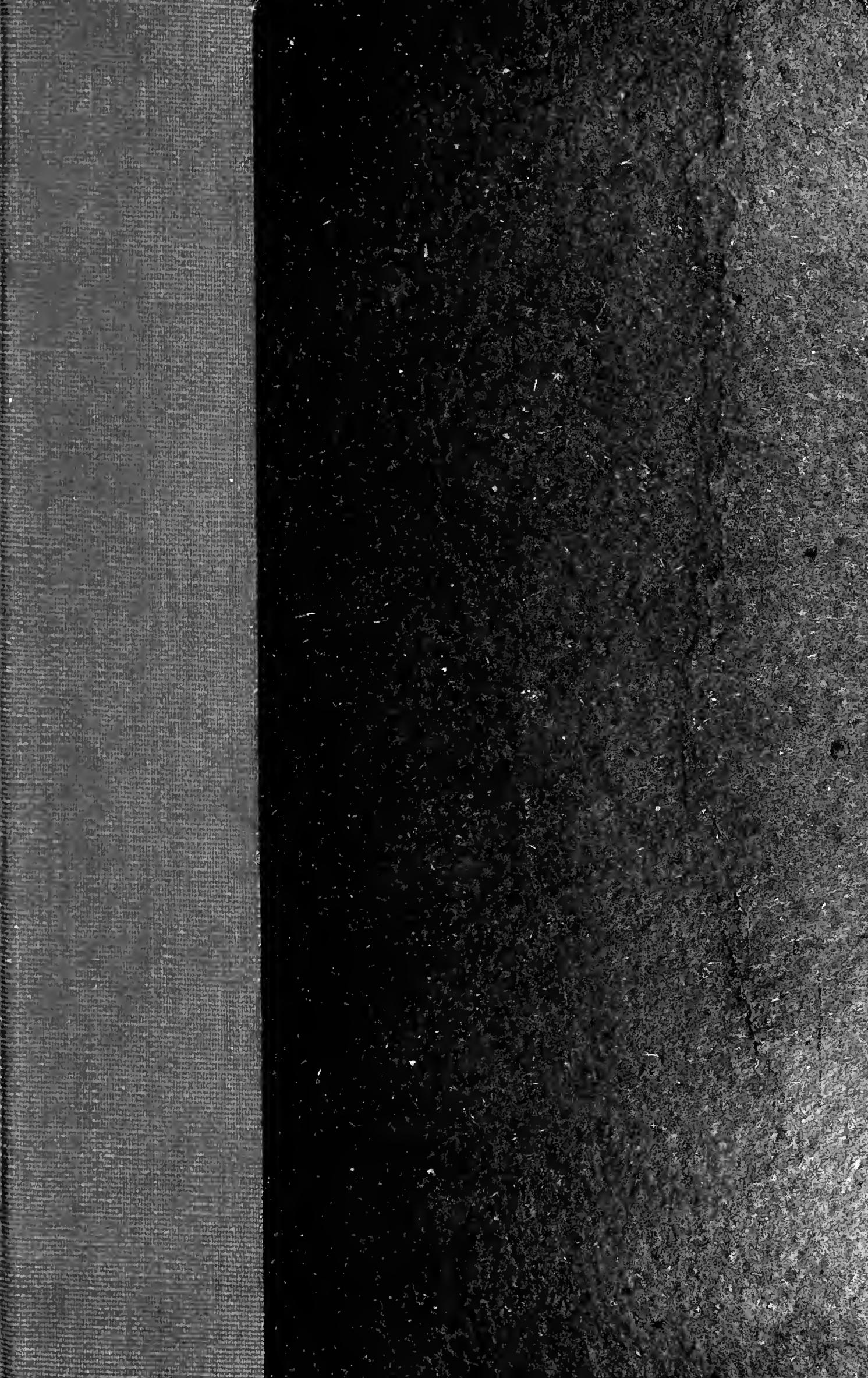


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THE
FLORIST AND POMOLOGIST:

A PICTORIAL MONTHLY MAGAZINE

OF

FLOWERS, FRUITS, AND GENERAL HORTICULTURE.

EDITED BY

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LIST OF COLOURED FIGURES.

LIST OF WOODCUTS.

Adiantum tetraphyllum gracile	139	Macrozamia Mackenzii	182
Anthurium ornatum	...	...	165	Masdevallia Chimæra	...	...	...	50
Anthurium Veitchii	...	...	100, 102	Masdevallia Davisii	...	...	...	52
Anthurium Warocqueanum	...	...	101, 102	Masdevallia ionocharis	...	...	...	51
Apple, Ten-shilling	...	...	170	Melon, Carter's Cream Pine	...	...	...	23
Auricula, pit, Mr. Booth's	...	...	6	Melon, Sutton's Whiteknights Favourite	...	...	...	23
Azalea Rollissoni	...	...	35	Microlepia hirta cristata	...	...	...	59
Bowenia spectabilis serrulata	...	...	107, 108	Nephrolepis Duflii	...	...	...	171
Croton nobilis <i>syn.</i> Codiaeum nobile	...	...	133	Pear Auguste Jurie	...	...	...	153
Cypripedium selligerum	...	...	85	Peas, Wilkinson's Trainer for	...	...	...	47
Dieffenbachia Shuttleworthii	...	...	67	Pentstemon Clevelandi	...	...	...	119
Dioscorea retusa	...	...	123	Phyllanthus roseo-pictus	...	...	...	13
Dracaena roseo-picta	...	...	29	Preston, plan of Royal Horticultural Society's				
Fumigator, Tebbs' Universal	...	...	16	Tent at	...	...	...	126
Hæmanthus cinnabarinus	...	...	155	Sadleria cyatheoides	...	...	...	3
Hæmanthus Mannii	...	...	119	Selaginella Victoriae	...	...	...	91
Hot-water boiler, Hcaps & Wheatley's portable				Tree-feller, Ransome's Steam	...	...	...	37
paraffini	...	...	180	Violets, Italian	...	...	...	69
Ixora Duflii	...	...	76	Woodwardia radicans cristata	...	...	...	21

INDEX.

ABIOS *canadensis pendula*, 187; *A. canadensis variegata*, 187.
Acer *Pseudo-Platanus*, timber of, 48.
Adiantum *cyclosorum*, 110; *A. Lawsonianum*, 95; *A. neoguineense*, 95; *A. tetraphyllum gracile*, 80, (woodcut) 138.
Agave *Shawii*, flowering of, 188; *A. Victoriae Regiae*, 111.
Album *Benary*, 15.
Amaryllids, prizes for, 80; how to flower, 144.
Amaryllis *Crimson Banner*, 80; *A. E. Pilgrim*, 80.
Anemidictyon *Phyllitidis tesselata*, 95.
Anemone *japonica* and its varieties, 179.
Anguioa *Clowesii* at Manchester show, 111.
Anthrium *ornatum*, (woodcut) 164; *A. regale*, 75; *A. Scherzerianum album*, 175; *A. Veitchii*, (woodents) 100; *A. Warocqueanum*, (woodents) 101.
Ants as a mild-winter pest, 84.
Aponogeton *spathaceum*, first flowering of, 112.
Apple, Jolly Beggar, (col. plate) 33; Stone's, 23, (col. plate) 73; Ten-shilling, (woodcut) 170.
Apples, analysis of, 32.
Apple Crops, causes of present failure in, 113.
Apricot *Angoumois Hâtif*, (col. plate) 9.
Asparagus, prizes for, 80, 111.
Aspidiotus *Pandani*, 30.
Asters, perennial, raising from seed, 160.
Athyrium *Filix-fœmina* *Frizelliae*, rediscovery of, 63.
Auricula, Descriptive notes of some leading green-edged varieties, 41; *A. Frank Simonite*, (col. plate) 145.
Auricula (alpine) *Silvia*, 95, 96.
Autumnal-flowering Plants, 179.
Azalea (*indica*) Duke of Edinburgh, (col. plate) 113; *A. Kaiser Wilhelm*, 95; *Madame Eeckhaute*, 98; *A. Rollissoni*, (woodcut) 35.
Azaleas, Ghent, for market, 154; new dwarf Indian, 58.
BALLET'S Art of Grafting and Budding, notice of, 111.
Bean, kidney, new, 24.
Begonia buds for salad, 187.
Begonias, new tuberous, at Versailles show, 176.
Begonias, new, 143, 160.
Belt, Thomas, death of, 176.
Berberis *Darwinii*, 31.
Bijvoet, Anthouy Nicolas, death of, 160.
Blackberries, American, 87.
Bloxam, Rev. Andrew, death of, 64.
Bollea *Patinii*, 63.
Bomarea *Carderi*, 175.
Books, new, 15, 47, 63, 80, 96, 163, 175, 187.
Boscobel, notice of, 175.
Bowenia *spectabilis serrulata*, (woodcut) 107.
Box, golden Japanese, 175.
Broccoli, new, 5, 24.
Brown, James, death of, 160.
CABBAGE, Barr's Criterion, 80.
Cabbages, clubbing in, cause of, 131; new, 24.
Calanthe *Sedenii*, 187.
Calochortus, from seed, 128.
Camassia *Brownii*, 95.
Camellia buds, why do they fall? 29.
Candytufts, new dwarf, (col. plate) 65.
Carnation James Douglas, (col. plate) 177; Rev. F. D. Horner, (col. plate) 177; Samuel Barlow, (col. plate) 177; *Souvenir de Malmaison*, 128; scarlet tree, *A. Aléagièvre*, 25.
Carnations, seedling, 127; two months of, 10, 19; a bundle of criticisms, 156.
Cattleya *Marstersoniae*, 175; *C. Mitchellii*, 143; *C. Veitchiana*, 143.
Canliflowers, new, 24.
Chafers as garden pests, 84.
Cherries, early, 116.
Cherry *Bigarreau Napoléon*, (col. plate) 57.
Chrysanthemum *Mrs. George Rundle*, 31; early, for bedding, 179; *M. Crousse*, 187.
Cineraria, *Levesley's Dwarf Covent Garden*, 111; double-flowered, 96, (col. plate) 137; single and double, 52.
Clay, burnt, for the amelioration of heavy soils, 175.
Clematis *indivisa*, hardiness of, 188; *C. Otto Fröbel*, 31; *C. Pitcheri*, 31; *C. Sieboldia*, 32; *C. Earl of Beaconsfield*, 111.
Clematises, Messrs. G. Jackman and Son's exhibition of, at Crystal Palace, 96.
Club-moss as a table-plant, 40.
Colens George *Bunyard*, 95; *C. Kentish Fire*, 95.
Conophallus *Titannum*, 188.
Cooper, Samuel, death of, 32; lines in memory of, 40.
Corydalis *lutea*, for bedding, 166.
Croton *nobilis*, (woodcut) 132; *C. Williamsii*, 143.
Cucumber, Walker's Hero, 31.
Cunningham, John, death of, 112.
Cuscuta *reflexa*, 16.
Cyclamens for market, 44; new, 63.
Cyclobothra *elegans*, from seed, 128.
Cypripedium *selligerum*, (woodent) 85.
DACRYDIUM *Franklinii*, 16.
Dactylis *glomerata aurea*, 110.
Dahlia *Cervantesii*, 160; *D. coccinea*, 160; *D. mexicana*, 160; *D. (variabilis) Paragon*, 160.
Dahlia, new, 143, 160.
Damson, American, (col. plate) 169; English (col. plate), 169; Shropshire, (col. plate) 169.
Daphne *Blagayana*, 144.
Davallia *fijiensis*, 80.
Dendrobium *superbiens*, 63.
Dieffenbachia *Shuttleworthii*, (woodent) 66.
Dioscorea *retusa*, (woodent) 123.
Dobson, John, death of, 96.
Dracaena *rosco-picta*, (woodcut) 28; *D. vivicans*, 110.
Dracænas, liability of, to Cucumber disease, 32; as table plants, 118; for market, 60.
Dressing Flowers, 166.
Du Mortier, M. Barthélémy, death of, 144.
EGGLETON, W. J., death of, 32.
Ellacombe's Plant-lore and Garden-craft of Shakespeare, notice of, 80.
Epacris *impressa* *Butterfly*, (col. plate) 49; *E. i. densiflora*, (col. plate) 49; *E. i. devoniensis*, (col. plate) 49; *E. i. Sunset*, (col. plate) 49; *E. onosmæflora* fl. pl. *nivalis*, (col. plate) 49.
Erica *candidissima* as a decorative plant, 128.
Erica *obbata expolita*, 110.
Eschscholtzia *crocea flore-pleno*, (col. plate) 17; *E. e. Mandarin*, (col. plate) 17.
Eucalyptus in the 64.
Eueharis *amazonica*, growth of, 31.
Eulalia *japonica zebrina*, 160.
Exhibitions:—Ghent Quinquennial Horticultural, 30, 70; London International Horticultural for 1880, 112; Metropolitan Horticultural, 111.
Exhibition, Paris, Carter's display at, 96; Sutton's display at, 80.
Exhibitions, Provincial horticultural, 111.
Exhibitions and meetings for 1878, 30.
FERNS at Lambton Castle, 144.
Ferns for Amateurs, Shaw's Illustrations of, 47.
Ferns for Market, 60.
Ficus *exculpta*, 160.
Fig Col di Signora Bianca, (col. plate) 121; Hardy Prolific, 23.
Figs, outdoor culture of, 104.
Fish, gold, for aquatic plant-houses, 51.
Flax, New Zealand, for tying, 127; New Zealand, hardiness of, 118.

Fleming, James, death of, 144.
 Florists' Flowers, Rev. G. Jeans on the Philosophy of, 53, 65, 81, 98, 114, 133, 150, 167, 178; synopsis of essay, 179.
 Flower-Garden, work in: January, 14; February, 28; March, 46; April, 62; May, 79; June, 91; July, 110; August, 121; September, 142; October, 159; November, 174; December, 186.
 Flower Gardens, notes on planting, 57.
 Flowers, cut, how to keep fresh, 64; on dressing, 166.
 Foulis, Robert, death of, 32.
 Fountaine, Rev. John, death of, 32.
 Frames, Cold, work in: January, 15; February, 28; March, 46; April, 62; May, 79; November, 174; December, 186.
 Fries, Professor Elias, death of, 48.
 Fruit Crop of 1878, 143.
 Fruit-culture: site as affecting fertility, 68.
 Fruit-Garden, work in: January, 15; February, 28; March, 47; April, 62; June, 95; July, 110; August, 122; September, 142; October, 159; November, 174; December, 187.
 Fruit prospects, 45.
 Fruit Season of 1878, 172.
 Fruits, new, (woodcut) 22.
 Fruits, Wall, culture of: the Peach and Nectarine, 3; the Apricot, 39, 86, 135, 177.
 Fuchsia as a cool green-house climber, 38; for market, 168.
 Fumigator, Tebbs' Universal, (woodcut) 16.
 GARDEN GOSSIP, 15, 30, 47, 63, 80, 95, 110, 125, 143, 160, 175, 187.
 Gardener, the Model, 184.
 Gardeners' Royal Benevolent Institution, 35th anniversary festival of, 127.
 Gardeners' Year-book and Almanack for 1878, 15.
 Gladioli, new, 143.
 Gleanings from Du Breuil, 129.
 Gloxinias, storing tubers of, 128.
 Godson, Septimus Holmes, death of, 32.
 Grape, Ahnwick Seedling, 22.
 Grevillea robusta filicifolia, 80.
 Gros Colman (Colmar), 16; Madresfield Court, to prevent cracking of, 127.
 Grapes, dry fire-heat to ripen, 64; management of shy-setting, 130; on back walls, 64.
 Green-fly, mixture for destroying, 175.
 Greenhouse, work in: January, 14; February, 27; March, 45; April 61; May, 78; June, 94; July, 109; August, 121; September, 141; October, 158; November, 173; December, 186.
 HAAGE, JOHN NICOLAS, death of, 160.
 Hablitzia tamnooides, 127.
 Haemanthus cinnabarinus, (woodcut) 155; H. Mannii, (woodcut) 119; H. rapaestris, 119.
 Henfrey's Elementary Course of Botany, notice of, 96.
 Hill, William, death of, 96.
 Holmes, George, death of, 64.
 Holmes, William, death of, 128.
 Hooper's Gardening Guide, notice of, 63, 95.
 Horticultural Clb., removal of, 30.
 Hot-water Boiler, Heap's and Wheatley's portable, (woodcut) 180.
 Houses v. Cold Frames, (woodcut) 5.
 Hyacinth King of the Blaeks, 63; Grand Master, 63.
 Hyacinths for market, 26; pot, for exhibition, 145.
 Hyacinths eandicans, hardy, 32.
 IBERIS umbellata nana alba, (col. plate) 65; I. u. n. rosea, (col. plate) 65.
 Ilex Aquifolium scotica aurea, 187.
 Insect traps, bait for, 95.
 Iris Kolpakowskiana, 48; I. Leichtlinii, 95.
 Ixora Duffii, (woodcut) 76; I. splendens, (col. plate) 129.
 Ixoras, culture of, 129.
 JELLY, Siberian Crab, 176.
 KEYNES, JOHN, death of, 18.
 Kitchen Garden, work in: January, 15; February, 28; March, 46; April, 62; May, 79; June, 94; July, 110; August, 122; September, 142; October, 159; November, 174; December, 187.
 LANTANAS as room plants, 111.
 Lastrea aristata variegata, 80, 175; L. crinita, 175.
 Lathyrus Drummondii, 110.
 Lanrustinas for market, 154.
 Lawns, destruction of, 35.
 Lettuce, Bossin Cabbage, 175.
 Lettuces, how to use, 139.
 Lilac, Persian, 143; for winter flowering, 105.
 Lily, hybrid, Mrs. Anthony Waterer, (col. plate) 97.
 Lily of the Nile, 176.
 London, John Claudius, portrait of, 47.
 Lnculia gratissima, 48.
 MACROZAMIA cylindrica, 160; M. Mackenzii, (woodcut) 183.
 Magnolia Campbelli, 176; M. Halleana, 63.
 Margetts, Rev. B. H., death of, 112.
 Market Plants, culture of, 26, 44, 60, 89, 108, 110, 154, 168, 183.
 Marl for shrubs and fruits, 158.
 Masdevallia Chimaera, (woodcut) 50; M. Davisii, (woodcut) 49; M. Harryana, 49; M. ionocharis, (woodcut) 49; M. Lindeni, 49; M. Nycterina, 50; M. Veitchii, 49.
 Masdevallias, notes on, 49.
 May-bugs as garden pests, 84.
 McNab, James, death of, 188.
 Meconopsis aculeata, flowering of, 112.
 Melons, Cream Pine, 23; Whiteknights Favourite, 23.
 Microlepia hirta cristata, (woodcut) 59.
 Mignonette for market, 45; from cuttings, 112.
 Moffatt, Thomas, death of, 32.
 Murray, Andrew, death of, 32.
 Musk, Harrison's new, for foreing, 176.
 NARCISSI for market, 26.
 Nelumbium luteum, 160.
 Nephrolepis Duffii, (woodcut) 171.
 OPHIOGLOSSUM lusitanicum, found in Ireland, 160.
 Oranges, home-grown, for dessert, 1.
 Orchids, cork blocks condemned for, 63.
 PANSIES, how to grow and exhibit, 74; from seed, 184; pot-culture of, 185.
 Paul's Rose Annual for 1877, 15.
 Peach à Bec, (col. plate) 1, 38; à Bec and Early Purple, 181; Frogmore Golden, (col. plate) 89; Golden Rathripe, 185.
 Peach-culture on the open wall, 17; pruning, 152.
 Peaches and Nectarines, Rivers' new, 170.
 Pear, Auguste Jurie, (woodcut) 153; Bergamotte Esperen, 56; Peach, (col. plate) 153; Williams' Victoria, 23; Zephirin Grégoire, 187.
 Pears, on ripening, 147.
 Pear-erops, causes of present failure in, 113.
 Peas, new, 23; our garden, 71.
 Pea-trainer, Wilkinson's, (woodcut) 47.
 Pelargoniums: double-flowered, 31; early-flowering, 117; Pearson's seedlings from echinatum, 144; large-flowered, for market, 140; large-flowered semidouble, 188.
 Pelargonium (new zonal) Dr. John Denny, (col. plate) 81; Lady Eva Campbell, (col. plate) 81; White Vesuvius, 48.
 Pelargoniums, variegated zonal, for market, 108.
 Pelargoniums, new ivy-leaved, 125.

Pelargonium Wonderful, Knight's sport of, 95.
 Pentstemon Clevelandi, (woodcut) 148.
 Pernettya mucronata lilacina, 175.
 Petunias for decoration, 73.
 Phalaenopsis Esmaralda, 175; *P. violacea*, 175.
 Phormium tenax, 118.
Phyllanthus roseo-pictus, (woodcut) 13.
 Picotee Alice, (col. plate) 25; Miss Horner, (col. plate) 25; Zerlina, (col. plate) 25.
 Picotees, two months of, 10, 19.
 Pine, Huon, 16.
 Pine-apple Lord Carington, 23.
Pinguicula vallisneriæfolia, 144.
 Pinks for garden beds, 185; seedling, 127; their treatment, 5.
 Plant-growth in darkness, 181.
Platycerium Hillii, 110.
 Plum Belgian Purple, (col. plate) 105; *P. Diamond*, (col. plate) 105.
Poinsettia pulcherrima, 35; *P. p. plenissima*, 35; *P. pulcherrima* for market, 89; single and double, 33.
 Polyanthus, gold-laced, 8; remiuiscences of, 55.
 Pomona, the Herefordshire, notice of, 163.
 Poplars, new American, for avenues, 187.
 Potatos, new, 23.
Primula sinensis fimbriata coccinea, 48; advances among, 24.
 Prize, the Neill award of, 160.
Ptychosperma rupicola, 95.
Pyrus arbutifolia, 32.
QUERCUS austriaca sempervirens, 61.
 RASPBERRIES, American, 87.
 Raspberry-culture, 120.
Rhipidopteris peltata gracillima, 95.
Richardia aethiopica, 176.
 Robinson's Hardy Flowers, notice of, 63.
 Rosarian's Year-book for 1877, 15.
 Rose (H.P.) Charles Darwin (col. plate), 161; (H.P.) Harrison Weir, 143; (H.P.) Countess of Rosebery, 110; (H.P.) Duchess of Bedford, 125; (H.P.) Penelope Mayo, 125; (H.P.) Dr. Sewell, 125, 143.
 Rose hedges, 153.
 Rose-shows of the metropolis, 125.
 Roses at Lord Rosebery's marriage, 63.
 Roses, judging, National Society's rules for, 120.
 Roses, variegated-leaved, 64; Mr. W. Paul's new, 30.
SADLERIA cyatheoides (woodcut), 2.
Sarracenia, a new hybrid, at Glasnevin, 95.
 Savoys, new, 24.
Saxifraga flagellaris, 188; *S. calyciflora*, 95; *S. purpuraseens*, 80.
 Scale, paraffin for destruction of, 112; screw pine, 30.
 Seasons, our, 6.
 Seed germination, 122.
Selaginella Victoriae (woodcut), 90.
 Shrubs for sea-shore planting, 127.
 Sim, Robert, death of, 144.
 Slug-guard, 111.
 Slugs, means of getting rid of, 176; great enemies in a mild winter, 84.
 Smith's Ferns, British and Foreign, noticed, 15.
 Snail-guard, 111.
 Societies:—
 Royal Horticultural, annual meeting, 47; Committee meetings, 30, 63, 80, 95, 110, 125, 143, 160, 175, 187; appointment of Assistant-Secretary, 30; Preston, Provincial show of, (woodcut) 125.
 Royal Botanic, meetings of, in 1878, 30; Rose show, 125.
 Royal Caledonian, annual meeting of, 16.
 Royal Manchester Botanic and Horticultural, meetings of, 30; Whitsun show of, 111.

Societies (continued):—
 Richmond Horticultural, 48, 127.
 National Auricula (Northern section): meeting of, 32; prize schedule, 63; annual show of, 91.—(Southern Section): annual meeting, 15; prize schedule, 47; annual show of, 77.
 National Carnation and Picotee (Northern Section): meeting of, 32; annual show of, 127, 137.—(Southern Section): meeting of, 16; annual show of, 95, 123.
 National Rose, 16, 30, 95, 125, 187.
Pelargonium: annual show of, 101; annual meeting of, 143.
 Royal National Tulip: meeting of, 32; annual show of, 80, 103.
Solanums, berried, for market, 183.
Sophronitis coccinea, 64; *S. grandiflora*, 64.
 Spanish Chestnut, most remarkable in England, 188.
Spiraea palmata elegans, (col. plate) 41.
Stephanotis floribunda, 188.
Stokesia cyanea for market, 183.
Stove, Tebbs' universal, 180.
 Strawberry, Loxford Hall Seedling, 23.
 Sutton's Amateurs' Guide in Horticulture for 1878, 15.
 Sweet Williams, note on, 62.
 Sycamore timber, 48.
Syringa chinensis, 127; *S. persica*, 127.
 TABLE Decoration, a hint, 40.
 Talks about plants, notice of, 187.
 Thomson, Dr. T., death of, 96.
 Thozet, M. A., death of, 144.
Todea plumosa, 128.
 Tomato, effect of coal-ashes on, 31; hybrid, 31; new, 24.
Torenia Bailloni, 143; *T. Fournieri*, 188.
 Tree-feller, Ransomes' steam, (woodcut) 36.
 Trees and Shrubs, transplanting large valuable, 59.
 Tulips for market, 26.
 Tulip-showing, a gossip on, 83.
 VARIEGATED-LEAVED plants, 47.
 Vegetables, new, 23.
 Verdier, Philippe Victor, death of, 48.
 Villa Gardening: January, 14; February, 27; March, 45; April, 61; May, 78; June, 94; July, 109; August, 121; September, 141; October, 158; November, 173; December, 186.
 Vine, Great, at the Viceregal Lodge, Phoenix Park, 16.
 Vines and Vine culture: formation of borders, soil, &c., 161.
 Vine borders of light loam, how to prepare, 176.
 Vines, plaiting, in summer, 9; potash manures for, 30.
 Violet (new double white) Belle de Chatenay, 48.
 Violets (double), Italian, (woodcut), 69.
 Visiaui, Professor, death of, 96.
WALLICHIЯ zebrina, 80.
 Wallis, M. Gustav, death of, 176.
 Walls, glass copings for, 22.
 Wheeler, George, death of, 112.
 Willow plantation, 31.
 Wiudebank, W., jun., death of, 176.
 Wood's Good Gardening, notice of, 63.
Woodwardia radicans cristata (woodcut), 21.
 Woolley, Samuel, death of, 64.
XERONEMA Moorei, 110.
 YEW, golden, sport of, 31.
Yucca baccata, 144; *Y. filamentosa variegata*, culture of, 87.
ZAMIA corrugata, 63; *Z. lucida*, 63.



Peach À Becc.

J. A. M. 1871



THE

FLORIST AND POMOLOGIST.

PEACH À BEC.

[PLATE 458.]

 E are indebted to Mr. Coleman, gardener at Eastnor Castle, for the opportunity of figuring this very fine early Peach, from samples sent in June last, accompanied by the following note:—

"I have forwarded to you fruit of a most excellent early forcing Peach, called à BEC, which I obtained about fifteen years ago, through Messrs. Veitch and Sons, from Mr. Rivers, by whom I believe it was introduced. I still look upon it as one of the very best early Peaches we have. The original tree, *lifted* and *transferred* to another part of the house in October last, is now (June 11) ripening off a heavy crop of fruit, at the rate of one to every square foot; consequently the peaches are quite 2 oz. lighter than usual. It ripens a fortnight later than Early Grosse Mignonne, is equal to Royal George in flavour, and the tree is a good grower. If you will place this fruit before your artist for representation in the FLORIST, you will be conferring a boon upon peach-growers, and the trade, as it is but little known. I can very strongly recommend it either for forcing under glass, or for cultivation on the open wall."

The specimens received and represented in the accompanying plate, were of large size, roundish or rather depressed, somewhat irregular in outline, with a shallow suture and little indication of a nipple. The skin was a pale straw-yellow, mottled with two shades of crimson where shaded, and dark crimson also mottled on the exposed side, the surface being distinctly downy. The flesh separates freely from the stone, and is tender, very juicy and melting, with a sweet rich and most agreeable flavour, the colour being white, with a faint tinge of red next the stone, which latter is small in comparison with the size of the fruit.

This Peach, which, according to Dr. Hogg, originated at Ecully, near Lyons, belongs to the group which produces leaves with round glands, and flowers of the larger size; the fruit, which is also large in size, is of first-rate quality. M. Thomas does not mention it in his recent *Guide Pratique de l'Amateur de Fruits*. The synonyms of *Pourprée à Bec*, and *Mignonne à Bec* belong to it.—T. M.

HOME-GROWN ORANGES FOR DESSERT.

 IN a recent number of the FLORIST AND POMOLOGIST appeared a coloured drawing of the Tangierine Orange, with some notes on its culture, intended to draw attention to the pleasure to be derived from being able to produce home-grown Oranges of excellent flavour for dessert purposes.

We have grown Oranges in pots, and have fruited them successfully, for at least a dozen years. No fruit is more valued, not alone for its flavour, which has always been superior to any imported Oranges that could be obtained at the same time, but because of the interest that is attached to the trees themselves, loaded as they are with large fruit almost bursting with juice—indeed, we have had specimens of St. Michael's that did actually burst. At the present time, we have a tree of St. Michael's

in a 13-inch pot which ripened its fruit—about four dozen in number—in December; they varied but little in size; the largest were 8½ in. in circumference, and weighed over 9 oz. each. This crop of fruit was set before the whole of the previous one was gathered in March last. We grow three varieties only, the Tangierine, St. Michael's, and the Maltese Blood.

The culture of these fruits is very simple. From the time the trees are started in February until the fruit ripens, as long a period elapses as is required for a house of Pine-apples or of Muscat Grapes. The temperature and atmospheric conditions of the Pine house suit the Orange-trees admirably. Ours are grown on the back stages in the Pine house, the plants being in pots of various sizes.

The *modus operandi* of their culture may be

summed up in a few words. A good foundation must be laid, by placing the tree in the right kind of compost. They are not over-particular as to this, but to do them well, tough, fibry, yellow loam must be procured from an upland pasture. It is best to use this before the fibre is too much decayed; pull it to pieces by the hand, and to five-parts of loam add one part of rotted stable-manure, and to each barrow-load an 8-inch pot full of crushed bones. If the trees are large, inch bones are the best, but for small trees we prefer the bone-meal or dust that is sifted through a half-inch sieve. It is also desirable, though not absolutely necessary to ensure success, to add a portion of broken charcoal to the compost. Drain the pots well by placing clean potsherds at the bottom, and over them a layer of fibre from which the finer particles of soil have been sifted; this is to keep the drainage perfect, by preventing the finer particles of the compost from working down into it. After the tree has been turned out of the pot in which it had been growing previously, with a pointed stick pick out the old material that had been used for drainage, and most of the old effete soil. The tree should not be potted deeper than it had been previously, and the compost must be pressed firmly round the ball with a wooden rammer. After potting the plants must be placed in a warm house, but it is not well to water the soil for a day or two, especially if the roots were not in a very healthy condition at the time of potting. The house may be kept rather close, and the trees be syringed until the roots begin to work into the new compost: this care is applicable to summer potting; in winter it is unnecessary. When the roots are active and have taken firm hold of the sides of the pots plentiful supplies of water are necessary, and the trees ought to be syringed well twice daily.

The insect pests that attack Orange-trees are scale and mealy bug, both of which will thrive on them. A clammy formation also gathers on the upper surface of the leaves in consequence of the presence of scale. To remove them I do not find any better plan than to wash the leaves and wood with tepid water in which soft-soap has been dissolved. The constant syringing keeps the trees healthy, but this must be discontinued when the fruit begins to

change for ripening. A rather dry atmosphere is desirable when the trees are in flower, as the fruit does not set well in a moist close atmosphere early in the year.

There is another variety of dessert Orange besides those already named that ought to be in every collection. It has been grown by some persons for many years, and when cultivated under the best conditions it is superior in flavour to any other. This is named the Prata or Silver Orange.

By following the above cultural directions success will be ensured, and the pleasure to be derived from successfully cultivating these fruits is very great.—J. DOUGLAS, *Loxford Hall, Ilford*.

SADLERIA CYATHEOIDES.

 ADLERIA is one of the few genera of Ferns which, though long since known to botanists, has remained unrepresented in our living collections till within the last year or two. Latterly it has been imported in a living state both by Mr. Bull and Mr. Williams, and may now be regarded as established in our gardens. Its native country is the Sandwich Islands, where two or three forms of doubtful distinctness occur.

The *Sadleria cyatheoides* forms one of the dwarfer-stemmed of the arborescent ferns, and is remarkable for its graceful habit, combined with its stout-textured and somewhat bold and arching fronds. Mr. Bull's figure, which we annex, gives a good idea of its elegant style of growth, the plant represented being not yet old enough to have formed its stem or trunk. In its more mature state it has an erect trunk-like stem of moderate thickness, and some 3 ft. in height, the crown of which is densely packed with linear dark-coloured scales, which also surround the base of the elongated and arching stipes. The fronds are 4 ft. to 6 ft. long, with pinnae 8 in. to 12 in. long, and three-fourths of an inch broad, cut down to the rachis into numerous linear pinnules about half an inch long. The fructification is that of *Blechnum*,—that is to say, the receptacle is central and elevated; and forms a continuous line close to and on both sides the midrib of the pinnules, and on this the spore-cases are seated, each line being covered while



SADLERIA CYATHEOIDES.

young by a narrow subcoriaceous indusium. The venation, however, is distinct from that of *Blechnum*, the veins forming a series of costal arches or areoles, from which they extend to the margin, with which they are connivent.

The species here referred to bears the

synonymous names of *Blechnum Fontainesianum* and *Woodwardia cyatheoides*. It is a most welcome addition to our cultivated stove Ferns, being quite distinct in style and character from any of the dwarfer arborescent species hitherto known in gardens.—T. MOORE.

THE CULTURE OF WALL FRUITS.

CHAPTER XII.—THE PEACH AND NECTARINE (*concluded*).

THE preservation of an abundant and healthy crop of foliage should always be kept prominently before the mind of the Peach cultivator, for without it the production of fine-flavoured fruit in any quantity can scarcely be hoped for, even under the most favourable atmospheric conditions; but when we come to add to the inimical influence of inclement weather, the host of enemies which spring up on every side to attack and derange its healthy de-

velopment, we may well at times feel rather disengaged, knowing that when the functions of the foliage are deranged by the depredations of the insect tribe to any extent, we may only expect fruit meagre in quantity and inferior in quality. As, then, the production of fruit is the very end, aim, and summit of all our endeavours, it behoves us to take timely measures to ward off as far as possible those attacks, and although we cannot always entirely neutralise their effects, much may be done by preventive

measures. For example three very direful enemies,—the mealy bug, red spider, and mildew—may be greatly kept in check, and their effects neutralised, by one operation carefully performed, as soon as the trees are nailed to the wall in early spring, and before the buds begin to swell. Thus, take an equal volume of flowers of sulphur and slackened quick-lime, say twelve pounds of sulphur; mix them together intimately in a dry state, and put them into a large vessel. For this quantity, dissolve in boiling water 2 lb. of Gishurst compound, and when thoroughly dissolved, pour it upon the lime and sulphur, and mix it together; then run some blue clay, with as little water as possible, through a fine brass-wire sieve, to get rid of all coarse material, such as small stones and other rubbish, and pour this into the vessel, and thoroughly mix the whole together. If too thick for working, add water until it becomes of the right consistency, but by no means make it too thin. Let it be as thick as can possibly be laid on with a large and fine-haired painter's brush, or a plasterer's brush—either will do. With this mixture wash over not only the whole of the branches, but the wall likewise, as far as the radius of the branches extends, taking care to fill up all nail-holes, cracks, and crevices in the walls with the mixture, and also to see that the branches are completely smothered. If this is not effected the first time, go over them a second time.

The rationale of the operation is this,—the mixture acts immediately on the mealy bug by smothering it, and thus the thicker it is laid on, the better; but in the case of the red spider and mildew, the action is prospective. The large proportion of sulphur in the mixture will, as the season advances, and the sun acts upon it, give out a vapour which is inimical to the growth of the fungus mildew, and equally so to the spread of the red spider. This, in most cases, will act efficiently as a preventive, but as there are some sorts which are more liable than others to the attacks of mildew—such, for example, as the *Royal George*—I do not hesitate in such cases to dash a quantity of dry flowers of sulphur on to the wet mixture as soon as the trees are painted over; but after all, this would only be necessary in extremely obstinate cases, for, as a general

rule, an annual application of the mixture will quite suffice to keep those three enemies in check. Its action, moreover, will be very much assisted by the means which must be adopted to keep down the other insect tribes, but, again, in this instance, preventive measures are infinitely preferable to curative ones.

Under the above routine of painting over the trees, it is very seldom that aphides will begin to appear until the trees have made a considerable amount of growth, and the temperature of the atmosphere is considerably raised; but long before that time arrives, it will be safe to commence a systematic course of syringing, which, if followed up, is by far the best preventive measure which can be adopted, since it prevents the insects from obtaining a lodgment. As, however, it is on the tips of the young growth that they first begin to show themselves, it may become necessary to go over them now and then in very hot weather, and pinch out those tips and destroy them, which will enable the wood and foliage below to harden, and thus become impervious to such attacks.

It will hence be seen that constant diligence is necessary, for the vermin multiply during hot close weather with such rapidity, that if left alone for a few days the increase is such that the necessity may arise for the application of some of those repulsive substances, such as tobacco-water, snuff, decoctions of quassia chips, and other insecticides, than which I cannot imagine anything more undesirable than to be obliged to syringe them over fruit-trees in a bearing state, and no exertion by the use of pure water ought to be spared to avoid the necessity of having recourse to them.

Before concluding this part of my subject, and entering on that of the Apricot, I would impress on the mind of the young Peach culti-vator the importance of a copious supply of water to the roots. It is an absolute necessity to keep the trees in a state of healthy development; it strengthens them to resist the attacks of insect enemies, and finally enables them to grow out of their reach. Without it the operator will fail to find a full response to his expectations, however great the intelligence that directs his various manipulations to that end.—JOHN COX, *Redleaf*.

PINKS: THEIR TREATMENT.

MAS the season is advancing when we must think about filling up the vacancies that occur in our collections of these favourite flowers, and also decide upon the selection to be made from amongst the new varieties that are coming out, a few hints upon the preservation of the plants during the winter months may not be unseasonable or out of place, especially as the losses have, with very many growers, been unprecedentedly great during the past season or two, in consequence of the excessively moist weather we have had, combined with frost. I find that plants, however small, if wintered in small pots, and planted out (the weather being favourable) the first week in March, grow at once vigorously, and produce fine, large, well-laced flowers; while the risk which would be run had they remained in the ground is obviated. I generally put single plants into 3-inch pots, using a compost moderately rich. After potting, they should be placed in a cold frame, giving them plenty of air, and supplying them with water only when they really need it.

The proper preparation of the bed in which the plants are to be placed, and to bloom, is of the greatest importance. It should be trenched and rotten manure plentifully worked in, and in addition to this a layer of manure two or three inches thick may be spread through the bed at the time of digging, at about 6 in. below the surface. The good effects of this treatment will be very apparent in the blooming season. It is important that the beds should be considerably raised above the walks, say, 5 in. or 6 in., and if the surface is slightly rounded, it will serve to throw off the heavy rains. In planting them finally in the bed, great care is necessary not to break the ball of earth surrounding the roots, as this frequently causes a check which it takes some time to recover. The plants should be placed at about 8 in. from each other every way, taking care to secure all tall plants that are likely to be injured by the wind. As the soil on the surface of the bed becomes caked, it should be loosened. Top-dressing, with good rotten manure, early in March, will be the means of further increasing the growth of the plants.

Below I give a list of varieties that I know are of sterling worth, and any of your readers who may select from amongst them will not,

I am convinced, be disappointed, since the following are amongst the best in cultivation, *viz.*:

Boiard.	Harry Hooper.
Charles Turner.	Mrs. Waite.
Emerald.	President.
Excelsior.	Reliance.
John Ball.	Blondin.
Mary Ann.	Device.
Mrs. Mitchell.	Emily.
Rosy Gem.	Godfrey.
Bertram.	Lady Craven.
Dr. Masters.	Mrs. Howarth.
Excellent.	Prince F. William.
Genevieve.	Victory.

—JOHN BALL, *Slough*.

NEW BROCCOLI.

MONGST the new vegetables exhibited this season worthy of notice, is Gough's Late White Protecting Excelsior Broccoli. This variety will prove a decided acquisition, being one of the very latest hardy protecting Broccolis, and one destined to fill up the gap between late Broccolis and early Cauliflower, and thus keep up a full succession of this most useful vegetable. The heads grow from 1 lb. to 16 lb. in weight, and are white as a Cauliflower, and both firm and compact.—EDWARD BENNETT, *Rabley Nursery, Herts*.

HOUSES *v.* COLD FRAMES.

THEN I was a youth, in the days when heavy Excise duties made the use of glass impossible, save to the opulent, florists resorted to many expedients for the protection of the objects of their care, which, if now recommended to our notice, would excite a smile of pity. Wooden shutters were generally adopted as coverings for pits, and even so late as 1849, as the importance of light came to be better though imperfectly understood, recipes for rendering light canvas waterproof and translucent were again and again asked for, and given in the pages of garden periodicals.

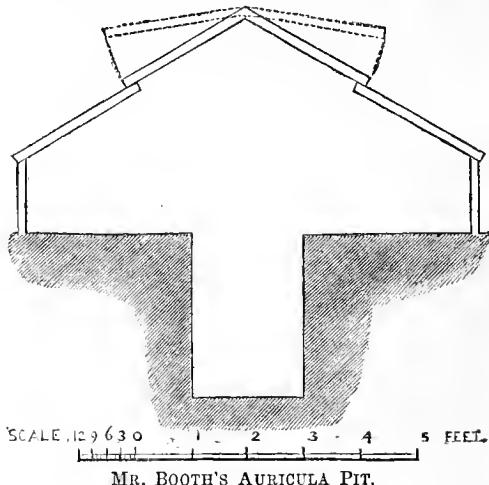
Of course, as glass became available and its advantages apparent, wooden shutters and opaque coverings disappeared, though to my certain knowledge, not without grave apprehension and many a shake of the head from our floral fathers as to the evils which were to come from treatments so different to the practice of their lives. In the case of Auriculas and Carnations and Picotees, "we

were," it was said, "subjecting the plants to greenhouse treatment, and that they could not survive." Yet they did survive, and even upon the testimony of the objectors themselves, attained additional stamina, grace, and beauty.

Time rolled on, and the next step was to discover the advantage of a covered erection, not merely for the enjoyment of the bloom, but for their winter's or summer's sleep, as the case might be, their growth and development. In such an erection the "sunshine of the master's eye" could be upon them, whilst, amply ventilated, both the objects of his care and himself had complete immunity from the intrusion of frost and the blighting influence of bitter east wind. It must not be supposed such an "innovation" was permitted to pass without a protest; such an assumption would exhibit a strange lack of acquaintance with the tenacity of ignorance. Yet, when Mr. Horner (whose papers on the cultivation of the Auricula and whose productions on the exhibition-table have stamped him as the master amongst these flowers), wrote in the April number of the *FLORIST* (1877, 74), first premising that his plants were in a house:—"With a good deal of snow, and frost enough to skate by, March has not been more like a lion than a Polar bear. The plants, however, have been growing finely through it, for I thought it well to take the chill off those few nights here with their 12° to 18° of frost, so kept a quiet fire on, which I only use for Auriculas as an auxiliary for the outside shading, when that is not protection enough in sharp spring frosts," it was somewhat surprising to be told by a writer in the *Journal of Horticulture* that "no Auricula-grower would, he believed, subject his plants to a higher temperature than that of an ordinary matted frame (whatever that might be), inferentially asserting, of course, the superiority of the frame over a well-constructed house; not so surprising, perhaps, when his position was traversed, to find him avoiding discussion, but most surprising of all, to find in the issue of the same *Journal* of November 22 the same writer coming out with a full-blown eulogy of a house, as contrasted with a pit, saying a certain misfortune had induced him to do what he wondered he had never done before, "build a low house for his plants,"

so that he "can now get into it in all weathers, and give air without any danger of rain beating in."

I have been led into these remarks by the remembrance of a very excellent and elegant span-roofed pit which I saw at Mr. J. Booth's, when I was last at Manchester, which had been specially put up for his fine collection of Auriculas, and which I was asked to describe. Its dimensions were—length, 36 ft.; width, 8 ft., the lights being so arranged that the most ample ventilation can be given at all times without danger from rain or hail. Moreover, shade can be given in summer by attaching blinds of suitable thickness to the under side of the lights. A sunken walk down the middle, 3 ft. below the ground-level, in order to get head-room, gives easy access to the plants on either side; and the health and vigour which these exhibited were the best



SCALE, 129 630 1 2 3 4 5 FEET.

MR. BOOTH'S AURICULA PIT.

evidence of the suitability of their quarters. The accompanying figure, drawn to a scale of one-fourth of an inch to the foot, will give the dimensions of the various parts, as well as convey an accurate impression of the general character of the structure. The pit is warmed by two 2 in. hot-water pipes.—E. S. DODWELL.

OUR SEASONS.

THE remark seems prevalent that the disastrous spring of 1877 will long be remembered by fruit-growers of this country, on account of the destruction of the blossom by frost, and the consequent loss of fruit for the year. Why this failure should be matter for much surprise I fail to make out, seeing that it is, year after

year, more the rule than the exception for us to be minus either of one or other of the sections of the hardy fruits of this country. Frequently it is called a "partial failure of the fruit crops." Rare, indeed, is it for us to have amongst our hardy fruits a red-letter year—that is, a full crop all over; but when this does happen, we are so brim full of fruit, that we forget both the failures and shortcomings of former years, and the fruitful exception is run away with, as being representative of our fruit position generally.

With all due respect to some of our southern counties I fear their claim to be regarded as the "fruit garden" of England must be altogether set aside, and that we must accept broadly such countries as Spain, Portugal, France, Turkey, the United States, and Canada as being the great orchards for the supply of the English fruit-market. An abstract from a Blue-Book shows that the imports of fruits from all countries to various ports in the British Isles for the year 1876 is £5,666,534. For the same year and from the same source, the value of imported grain, meal, flour, &c., is put down at £51,812,438. Allowing a large margin of the above fruit value for fruits which we could not grow in this country under our most favourable circumstances, there is still ample room left for industrial exertions applied to the production of fruit, should the nature of our climate permit; but those exertions are followed by one disappointment after another, these again by expenditure after expenditure, pronouncing in almost the plainest language which can be written, that our climate has become far too uncertain ever to allow England again to take rank as an out-door fruit-producing country. Whatever we do, to be depended upon, must be in a small way under glass, the same as they do in Sweden: witness the collection of pears and apples from that country, exhibited the other day at the Crystal Palace.

Our seasons, according to experiences of late years, are evidently becoming perceptibly deteriorated, for similar remarks to those relating to our failures of fruit, may be applied to our shortcomings in the production of grain; but of this I shall say but little here, beyond expressing my decided opinion that the culture of the land, agriculturally speaking, has not kept pace with the times—witness the filth in

our fields, the tortuous sub-divisions of land by quick-set hedges, the condition of our highways and our byways, our ditches, our rivulets, and our rivers. During wet seasons, such as we are having, our country may be described as a country almost under water, and its inhabitants, developing gradually by force of circumstances, into amphibious animals. All these are remnants of feudal ages, and until they are swept from off the face of the country, our position, no matter with what favoured seasons we may be blessed, will remain the same.

True, we have what is called in this country mild winters, which might be put down as so many days, weeks, or months of cold sloppy weather, intermixed with occasional frosts and snows, supposing, to begin with, we have not had a wet, sunless summer and autumn. This sort of weather often commences in November, and continues throughout the winter, until spring, again supposing that we are not to have a wet spring, followed again by a wet summer, &c. These climatal conditions, besides preventing the proper ripening of either wood or fruit-buds preparatory to the production of fruit, also prevent the British farmer from preparing his land in autumn, or at the fall, as they do in most other grain-producing countries. The consequence is, the farmer is compelled to get on his land by snatches, either preparing for, or sowing, all through the autumn, the winter, and the spring, leaving besides, for the want of the necessary fair weather to clean it, a large per-cent of land as dead fallow for the year, and in many instances even for two years. The only thing which is really done well in this country during the winter months is fox-hunting; and should the seasons continue much longer as they have been lately, it may soon become a question whether it might not be advisable to let the country altogether to companies of fox-hunters, and lie the British farmer and gardener farther away to "fairer fields and pastures new," for like Cleopatra's Needle, the elements appear to be throwing most of them on their beam-ends.

For the salubrity of the British Isles it is said we are much indebted to the famous Gulf-stream. I fail to note the benefits, seeing that this ocean current brings to our shores such a promiscuous mixture of weather, that we can

scarcely tell for two days together what that weather is going to be—in summer, whether it is going to be wet or dry, or frosty; or in winter, whether it is going to be white or black, or hard, or windy. In spring-time, however, it seldom fails to bring with it as much frost as to almost totally annihilate our fruit prospects. I have read somewhere that when Cousin Jonathan is angry with us, he banteringly threatens to cut off, and so deprive us of the benefits of the Gulf stream. By all means let him do so, and by his sweeping away the narrow countries of Central America, the stream will pass through and join other currents, to warm up the Pacific shores of the North American Continent. They stand in more need of it than we do, at any rate they possess more coast line, and according to the laws of nature, much always wants more: so let it go. If the presence on our shores of this stream so frequently deprives us of our apples and our pears, our plums, our cherries, and our gooseberries, like a bad shilling, we are better without it. The climate of the British Isles, by the presence of this stream, is not a natural one; it gives us an isothermal line of climate equal to about 1,200 miles further south on the continent of North America, without giving to us their corresponding advantages, for we neither enjoy the grandeur of their winters, nor the grandeur of their summers, or of their falls. In winter we could but do as they do in other similar parallels of latitude, where they have no Gulf-stream, wrap ourselves up in our furs, occasionally rub our noses, and go sleighing up and down on the snow and on the ice, until the arrival of spring, when our presence would be required amongst our fruit-trees and in our fields.

Besides the loss of our fruits from these causes, the same influences too often cause the loss of our grain. Both have to be supplied from other countries, countries which in earlier years, to our shame be it said, were to a great extent peopled by our exiles, our unprovided-for, our cast-aways, and our slaves, who, like Joseph in Egypt, found more hospitable climes, and who like him, lived for a time in hardships, temptations, industry, and plenty, until the opportunity arrived for them to requite our cruelty by deeds of kindness. History, it is said,

often repeats itself, and of this, where could we find a more striking or more convincing instance than, I may say, in the many circumstances of the present day. For instead of having to pay, as our ancestors had to do in former days, famine-prices for indifferent food, we pay for it just as much as the quality of the article is worth; and like Joseph's brethren, thanks to those banished exiles, buy to our certain satisfaction out of the great orchards and granaries of the world.—WILLIAM MILLER, *Combe Abbey Gardens.*

GOLD-LACED POLYANTHUSES.

IT is very satisfactory to note an awakening interest in the old-fashioned Gold-laced Polyanthus. They have passed through a time of neglect, but the lamp of their life has not been wholly extinguished; and if it has not been held aloft, it has yet been kept burning, since a few florists here and there have held some of the fine old named varieties safe to this day. They are very scarce, but it is something to know that they are in existence. Twenty years ago the best-named Gold-laced Polyanthus in cultivation were:—

Pearson's Alexandra.	Nicholson's King.
Maund's Beauty of England.	Craigie's Highland Mary.
Sanders' Cheshire Favourite.	Thompson's Duke of Northumberland.
Hufton's Earl of Lincoln.	Gibbon's Royal Sovereign.
Collier's Princess Royal.	Brown's Richard Cobden.
Clegg's Lord John Russell.	Bullock's Laneer.
Cronshaw's Exile.	Hufton's Traveller.
Buck's George IV.	Willison's Lady Milner.
Addis's Kingfisher.	

What a possession it would be now to have a plant each of the foregoing varieties! I have been making inquiries on every hand to get hold of any of them, and I have been successful in obtaining Beauty of England, Cheshire Favourite, Earl of Lincoln, Exile, George IV., Lancer, and in addition, Cox's Regent, Telegraph, William IV., Formosa, Rev. F. D. Horner (raised, I believe, by David Jackson, of Middleton, a flower of good properties), and Hilton's President. I am afraid some of the varieties enumerated above have become wholly lost, or if they exist, it seems difficult to get a clue to their whereabouts. If one would look for the old named Gold-laced Polyanthus anywhere, it would be in the neighbourhood of Manchester; but at the exhibition of the National Auricula Society, at which prizes are





W.H. Fitch del.

Apricot Angoumois Hâtif.

offered for Polyanthus, the competition is confined to George IV., Exile, Cheshire Favourite, Rev. F. D. Horner, and Hilton's President; William IV. and Formosa are North of England flowers, very pretty red-ground varieties, something in the way of Lancer. I have obtained George IV. from two sources; in one case the plants are of delicate growth, in the other quite luxuriant; and I fancy I note a distinct character in the foliage. I am hopeful the debility observed in the first case may be but temporary, and that the plants will soon grow out of it. I have now a good strong plant of each in a 48 or 5-in. pot, and I hope in the spring to be able to set up a group at one of the meetings of the Royal Horticultural Society. If any reader of the *FLORIST* can put me in the way of getting a few of the varieties I do not possess, I shall be very grateful to him.

My mode of treatment of these fine Polyanthus is as follows:—The plants are potted in August, in good auricula soil, but a little more firmly than I do auriculas; and they are then stood under a north wall on a raised bed of cinder-ashes, being freely watered overhead in dry weather. At the end of October, when wet weather sets in, the plants are removed to a raised frame on the same aspect, and there they remain till spring, when they are removed to a cold greenhouse to flower. This house is a little too sunny to have the flowers in perfection long together, and I am on the point of

putting up a north house specially for blooming Auriculas and Polyanthus.

The plants are placed out in a well-prepared bed in a shady spot in the open ground about the middle of May, and remain during the summer. The soil is taken out to the depth of nine inches, and a layer of cow-dung and fresh horse-droppings, to the depth of four or five inches, put at the bottom; then the soil is returned, and the plants are turned out of the pots, simply removing the crocks at the bottom of the balls, planted out, pressing the plants firmly and a little deeply into the soil, and then top-dressed with a mixture of leaf-mould and cocoanut-fibre. During the summer, the plants are kept well watered, especially with soap-suds on washing days; and under this treatment they do remarkably well. The plants are divided but once in the year, at the time of potting, when the soil is shaken from the roots, and the tap-root shortened back; the strong plants are put in 48-in. pots, and the smaller ones into pots appropriate to their size. At this time of the year and onwards, green-fly is a little troublesome, but an occasional painting of the under-sides of the leaves with Fowler's Insecticide is a capital remedy.

I have a few promising seedlings that bloomed last year for the first time, and I am hopeful I may secure something nearly if not quite up to first-class form.—RICHARD DEAN, *Ealing, W.*

APRICOT ANGOUMOIS HATIF.

[PLATE 459.]

 HIS little known Apricot belongs to the free-stone race with sweet kernels, and is an early variety, as, indeed the name Early Anjou implies, ripening about the end of July; it is also a variety of good quality, and one which may be recommended to the notice of fruit-growers.

The fruit is of medium size, roundish-oval, with a shallow suture, very highly coloured,

the skin being of a deep orange yellow on the shaded side, and freely spotted and flushed with purplish-red on the exposed parts. The flesh is a deep creamy-yellow, juicy, melting, and briskly flavoured, sugary, and taking on a fine aroma when highly ripened.

Apricots are especially adapted for orchard-house culture in pots, and the quality of well-ripened fruit thus grown is excellent.—M.

ON PLANTING VINES IN SUMMER.

 HE method of having Vines planted while in an active stage of growth has long been in practice amongst British gardeners, and has generally been considered a

step in the right direction, a considerable advance of growth being gained during the first season over those planted during the resting period. The greatest drawback to summer planting consisted

in putting the roots into the soil nearly in the same condition in which they were when turned out of the pots, which left them in the coiled-up state for all time after. Younger plants than it was otherwise desirable to use were consequently obliged to be taken.

Having had something to do in Vine-planting during the two past seasons, I have devised a plan to obviate the evil above-named; and it has succeeded so well that I feel induced to relate it. In the winter of 1875, some old vines which were not giving satisfaction were torn out of a viney here, to make room for young ones. Owing to unavoidable circumstances, the border could not be got ready until the end of April or beginning of May. It was therefore decided to grow the Vines on in heat, and to plant them out in summer. Early in February I had some boxes made, one for each plant, of the following dimensions—sides, 4 ft. long; depth, 10 in.; breadth of end, 10 in. All that was required was to nail a narrow strip of wood on to the two lower edges, to rest the cross bottom-pieces of $1\frac{1}{2}$ or 2 inches wide upon, and another narrow piece on to each end of the sides, to keep the ends in their places when filled with soil; then to put all the pieces into their places, and fasten both ends by a double ply of rope-yarn, which kept the whole firmly together. The Vines were then turned out of their pots, and the soil clean removed; a little soil was put into the box, and the plant placed at one of the ends, the roots being carefully spread out over the length of it. The box was then filled up with soil, well watered, and removed into a cool place until the time of starting into growth. At the time of planting out, an opening was made under the sole-plate of the house, by removing a few bricks, to give sufficient room for the vine to be safely conducted inside. At the same time, the box was carefully moved forward to its proper place and depth. The fastening was cut, and one of the

sides taken away, the soil being brought hard up to the side, so as to prevent the young roots from getting injured. The two ends were next removed, and the soil made firm to the ball in a similar manner, when the remaining side was lifted away, and the space being clear, the narrow bottom-pieces are drawn out one by one. This having been completed, the soil was carefully packed round the roots, and so little were they disturbed, that the plants never showed any signs of suffering from the removal into their new quarters, not even requiring shading.

A similar plan was adopted this season with vines for a new viney, but instead of the plants being planted at the ends, they were put in the centre of each box, while the roots were extended both ways. The object of this was to plant the vines so that the roots might grow inside as well as out, the front wall of the house being arched for the purpose. The vines, having grown several feet in length, were planted into the new-made border on July 2nd, the soil being taken out sufficiently deep in the new compost to allow the end of the box to pass under the arch. This done, the planting proceeded as in the former case, and although the days had begun to shorten, and the hot-water appliances were not in working order until the end of the first week in August, the shoots of one of the vines had reached the top wire of the house, a distance of 22 ft. from the ground, by September 14th, and nearly every vine in the house had reached the top before the end of October, some of them having been trained along the top wire for a considerable length, and all lateral growth being encouraged and tied in, so as to induce root-making to the fullest extent. Although planted so late in the season, I do not remember ever previously to have seen young vines make such rapid progress during the first year of planting.—J. WEBSTER, *Gordon Castle.*

TWO MONTHS OF CARNATIONS AND PICOTEES.

 WRITER in an early number of the *Journal of Horticulture* for 1877 spoke of the cultivation of the Carnation and Picotee as involving "forty-nine weeks of troublesome attentions for three of the enjoyment of the bloom." Paradoxical and most unhappy utter-

ance! for when was enjoyment born of attentions felt to be "troublesome"? But let this pass. The true florist knows nothing of trouble, in the attentions required by the objects of his devotion; the measure of his care is the necessity of his pets, and with him all is undone whilst

anything remains to be done. Nor is it true that the fruition of his labours is limited to three weeks of bloom. In my own case, my earlier flowers opened in the third week of June, and I cut a fine specimen of John Keet, rose-flake, from a late spindle on August 27. With my friend Mr. Rudd, of Bradford, the season was even more prolonged; though I did not choose the title of this paper to indicate the results in my own collection merely, but rather to note that as the swallow follows the summer, it was my privilege to go in the past season from bloom to bloom.

My first pilgrimage was to the collections at Loxford Hall, in the charge of my friend and fellow-florist, Mr. Douglas. Up to this time, such had been the untoward character of the season, that I must frankly avow I had suffered keen anxiety for the success of the Aquarium Show, in the promotion of which I had been made to bear a prominent part. But my visit to Loxford Hall dispelled all fear. With a rare intelligence and a perseverance only possible to loving devotion, Mr. Douglas had so used his opportunities as to bring his flowers to the very day,—and such flowers! Such size, such substance, such markings, such brilliant colours and lovely white grounds! memory may recall and imagination paint their equals, but rarely is it given to mortal eye to rest upon such beauty. For two hours, which seemed only seconds, I paced to and fro with my friend, now sipping here, now there, until poor, frail mortality sank almost sated with beauty! But beauty dies not; as Keats sang, “a thing of beauty is a joy for ever,” and as I journey far from home, and from the garden, which next after home lies nearest to my heart, I travel with an inexpressible delight and a never-wearying joy from beauty to beauty, enshrined for ever in that storehouse of compact proportions, but illimitable capacity—the mind’s eye.

On the 18th we had the first great Show of the season, at the Aquarium. On the 23rd, I visited the Royal Nursery, Slough. My own bloom culminated at the end of the month, and during the three latter weeks of August I was in Lancashire and Yorkshire, visiting the collections of Mr. Gorton on the 15th; of Mr. Booth, of Failsworth, on the 18th; assisting at the show in Manchester on the 16th, and again at Bradford on the 22nd; and finally,

visiting the collection of Mr. W. M. Hewitt, at Chesterfield, on the 24th.

I have thus, I trust, shown cause sufficient for my title, and so, with my readers’ kind permission, I will endeavour to describe the results of my observation. I have already touched upon the rare growth and the exquisite beauty of the flowers at Loxford Hall. During a long life I have seen many fine displays of Carnations and Picotees, but never any finer. Beyond the point attained by my friend mortal skill cannot go, and even imagination stands quiescent, for what more of beauty can be desired?

Of the Aquarium Show, I will only say it was worthy the effort made to produce it. The productions of Mr. Douglas and Mr. Turner may be equalled, but can never be surpassed. To those who may desire to obtain a valuable lesson in the art of effective setting-up, I suggest they turn to the report of the show (*vide* vol. for 1877, p. 186), and copy out the collections of Mr. Turner and Mr. Douglas in the open class, commencing at the left and reading to the right, observing that Mr. Turner’s collections, both of Carnations and Picotees, were displayed on stands of four sixes, whilst Mr. Douglas showed his in three lines of eight each. No one who may follow this advice, and who is moderately familiar with the characteristics of the flowers exhibited, can fail to appreciate the beauty developed, or miss the artistic lesson conveyed.

Notwithstanding the beauty of the flowers produced by Mr. Turner on the 18th, the general collection yet wanted on the 23rd several days to the height of the bloom. But the most remarkable feature was the absence, not absolute but relative, of the grand old varieties—patriarchs in Carnations, like Curzon, Milton, Premier, &c. The eye ranged over hundreds, to note ones and twos only of these grand old favourites, where in such an extensive collection twenties and thirties might be looked for. A brief word of surprise elicited the reason. *So large had been the demand, that over thirty-two thousand plants had been sent out from this nursery alone in the previous season*, and thus the depletion of the stock was amply accounted for. But what a commentary on the ignorance—or shall I say innocence?—of the writer, who also in the *Journal of Horti-*

culture, at the beginning of the season, declared:—"Florists' flowers were hopelessly at a discount in the South!" Even whilst this gentleman was giving proof of his own strange simplicity, a demand never before exceeded was exhausting the enormous stocks of the Royal Nursery, and highly-respectable firms, unable to obtain supplies from the usual trade quarters, were appealing to me for introductions to artisan cultivators or others who might be able to appease, though in a small degree, the appetite existing.

But though I thus remark on the *relative* absence of the grand old varieties in Carnations at the Royal Nursery, it must not be assumed they were not there. In presence indeed they were, and in many cases in grand character, but most noticeable were a large number of seedling Picotees from the celebrated raisers, the Rev. A. Matthews, Rev. C. Fellowes, and Dr. Abercrombie. Some other varieties also—notably *Her Majesty*, medium purple, of the largest size, and *Leah*, heavy purple, originated by Mr. Addis, of Gospel End by Dudley—attracted my attention, and pleased my taste. One variety of Mr. Matthews's, as yet unnamed, much interested me, being a picotee with a bizzared edge, bright purple and rose, on a white ground of exceeding purity. Whether florists may approve this style I cannot pretend to say, though I know no reason why they should not. It is merely enlarging the variety we already rejoice to possess, and offends no canon of floriculture known to me.

Travelling into Lancashire, and thence into Yorkshire, I found the season, unpropitious beyond living memory, had mitigated nothing of its vigour. Heavy rains had fallen throughout July, but in August it was a continuous downpour. Yet, and notwithstanding such dampers to his energy, the florist worked, as only enthusiastic devoted florists can work, to develope and preserve their flowers, and well were they rewarded! Late as were the days of show, they were too early in each case for the localities concerned, and it was palpable that Mr. Simonite, of Sheffield, the most Southern of the contributors, had reached the height of his bloom only on the day selected for the later situations—August 22—whilst gentlemen like Mr. Lord, of Todmorden, located on the breezy hill-sides of Yorkshire, though producing individual flowers of the brightest colours

and highest merit, were unable to make a collection in Carnations requiring even so limited a number as nine dissimilar varieties.

And now, to avoid repetition, I will as briefly as possible describe in their several classes the flowers, both new and old, that came under my notice, and which I either grow myself, or desire to grow so soon as they are accessible.

First, in Scarlet Bizarres, *Admiral Curzon*, sometimes called *Dreadnought*, was everywhere good, and *Mars*, *Mercury*, *Sir Joseph Paxton*, and *True Briton* should be in every collection. Of new Scarlet Bizarres, two varieties shown by Mr. Simonite, one at Manchester on August 16, called *Joseph*, and the other at Bradford, on the 22nd, called *Samuel Cooper*, are most promising, the latter especially so; and if only constant, certain to occupy a foremost place, if not the very first place, in the class.

In Crimson Bizarres, *Albion's Pride* was scarcely so good as in the previous year, showing a slight roughness on the edge, probably due to the abnormal conditions of the season; but in this class there is a grand galaxy of well-established beauties, in which may be enumerated *Black Diamond*, *Captain Stott*, *Colonel North*, *Eccentric Jack*, *Earl Zetland*, *Graceless Tom*, *Gem*, *J. D. Hextall*, *Jenny Lind*, *John Simonite*, *Lord Milton*, *Lord Ruggan*, *Marshal Ney*, *Rifleman*, and *Warrior*. Of newer varieties, *John Harland* and *William Murray*, two varieties originated by Mr. Adams, of Newcastle-on-Tyne, are very desirable, very opposite in their respective styles, but very beautiful. The *Rev. George Rudrick* (Reeves) is also good, with the rich, deep colours of *Warrior*, on a better-formed petal, though unfortunately, like *Warrior*, it is late in its period of bloom; and *Unexpected* (Turner) proved to be quite a gem, winning the first place at the Aquarium Show against a fine specimen of *J. D. Hextall*. Of varieties not yet in commerce, Mr. Buttram, of Burgh Mills, Woodbridge, showed a fine specimen of a variety he has named *Rainbow*, a rosy-crimson, with plenty of bizarre, very bright and promising; and Mr. Simonite had several, some yearlings, and others of longer standing, which his fellow-florists will be glad to add to their collections when they are attainable. Unfortunately, the wet, sunless season, conjoined with the murderous influences of a Sheffield atmosphere, made it impossible for Mr. Simonite to send any out this season.

Pink and Purple Bizarres are a limited class, but very lovely. Here *Sarah Payne*, *Falconbridge*, *James Taylor*, and *Satisfaction* (Bower), were especially good; and *Purity* (Wood), though not new, a variety I noted at the Royal Nursery, deserves a place in every collection.—E. S. DODWELL.

(To be continued.)

PHYLLANTHUS ROSEO-PICTUS.

HIS very elegant-habited stove shrubby plant, introduced from the South Sea Islands, is referred in gardens to the genus *Phyllanthus*, but its true name, so far as we know, has not yet been determined. It is a deciduous shrub, casting its leaves in winter, and is of erect bushy habit, with terete stems, and numerous branches, the branches being abundantly clothed with bluntish broadly-ovate

leaves nearly an inch in length, and producing flowers of the inconspicuous character which is observable in very many plants of the same order—the *Euphorbiaceæ*.

Of this plant three forms or varieties have been introduced. The first was called *Phyllanthus nivosus*, and in this, which is marked by snowy variegation, the leaves are more or less freely mottled with white, which sometimes extends nearly over their entire surface, and



PHYLLANTHUS ROSEO-PICTUS.

gives a marked character to the plant. The women of the island of Tanna are said to use the sprays of its snow-white foliage as a head-dress, intermingling them with their dark-coloured tresses. The next introduced was called *Phyllanthus atropurpureus*, which is chiefly remarkable for its purple stems and foliage, the leaves, which on their first expansion are dark green, changing, under the influence of light, to a rich dark purple hue.

The subject of the present note and illustration, obtained from Messrs. Veitch and Sons, is the third and by far the most beautiful of the series. It has the same terete stems, bushy habit of growth, and bluntly ovate leaves as the other forms, but "the variegation is exceedingly rich and varied, both in colour and form, no two coloured leaves showing precisely the same markings with like tints. Many of the leaves are bright crimson, which is also

the colour of the stems during the early stage of growth; some are a light cream-colour, tinged with a delicate blush; others, again, have a dark bronzy hue shaded with crimson. Some are dark green, with blotches and spots of rose, while others are tricoloured, white with different shades of rose and green. The blending and intermixture of these pleasing tints render this plant very ornamental and distinct. It will be found invaluable for cutting sprigs for bouquets." It grows well in an intermediate stove or warm greenhouse, and is of such easy culture as to be especially valuable for decorative purposes.

The plant has been certificated both by the Royal Horticultural and Royal Botanic Societies.—T. MOORE.

VILLA GARDENING—JANUARY.

OW that "another year has dawned upon the earth," the Villa Gardener will be anticipating lengthening days, and the onward progress of that time when March will come in, lusty and full of life, and there will be signs of the great awakening in nature which we term Spring. But there must come the interval of winter—that period of suspense which has its uses in the vegetable kingdom, as have the genial rain and beaming sun.

GREENHOUSE.—Fire-heat—a gentle warmth, just enough to be perceptible, and no more—is now indispensable, if flowers are required for the festivities consequent on the New Year. If the sun be warm by day, and the atmosphere genial, give air, but shut up the house just as the sun declines. Many amateur gardeners commit the mistake of keeping up too much fire-heat, and their greenhouses too close; they do not draw a distinction between nipping frost or raw cold damp, and the milder time when artificial warmth may be subdued and air given. What a valuable lesson is taught in the plant-growing nurseries round London, whose productions go to the flower markets! Forcing is done largely and rapidly, but always without that fierce heat employed in some private establishments. Nature is assisted by a kind of gentle pressure, and the plants are so prepared as that they produce their flowers immediately, and just when they are wanted. Amateur gardeners can take a lesson from this. Another point is to force into flower only such things as are not difficult to manage. Under this head may be put Roman and the later-flowering *Hyacinths*, *Narcissi*, especially the early Paper-white and the Double Roman varieties,

with the finest-scented *Polyanthus Narcissi* to follow; also *Astilbe japonica*, *Deutzia gracilis*, *Pelargoniums*, *Cytisus racemosus*, *Bouvardias*, *Echeveria retusa*, *Azaleas*, *Cyclanens*, *Mignonette*, *Tree Carnations*, and forcing *Pinks*. The market grower has none of these in a larger size than the 48 or 5 in. pot. The pots are full of roots; water is freely supplied when wanted but given with care, and a little weak liquid cow-manure is used as a gentle stimulus. A comfortable equable temperature is maintained, and everything appears to work together for good to produce flowers. In the course of the year a few papers shall be given showing how to prepare the plants during summer to yield flowers at mid-winter.

Our Greenhouses require attention at this season of the year as regards cleanliness, keeping the glass clean, both at the roof and sides, so as to admit the greatest possible amount of light. Shelves and stands should be kept clean also; damp hangs about untidiness. A frequent turning round and moving of the plants not only benefits them, but leads to the discovery of insect pests, and decaying leaves can be picked off more easily.

COLD GREENHOUSE.—So far the weather, though very dull and wet at times, has been favourable to the well-being of the plants. Just now there is not much in flower, but as every blossom is now specially valuable, anything is acceptable that furnishes them. *Chrysanthemums* hold on; then there are *Primroses* and *Polyanthuses* (the plants were showing blossom in the open border, and were lifted and potted); some early-flowering bedding *Violas* in pots; *Tropaeolum Lobbianum* from August-struck cuttings, and with these are mingled *Solanums*, with bright-looking berries. *Zonal Pelargoniums* have ceased: it is a little too cold for them. Any plant that is at all tender can be greatly protected by putting a newspaper over it and at the sides, and when the frost is sharp by using a paraffin lamp. The soil about the plants should be kept drier as the weather waxes colder, so that any injury from frost may be lessened as much as possible.

FLOWER GARDEN.—The mild weather has been favourable to planting and all alterations, such as laying turf, putting in edgings to walks, &c. In relaying turf, it is well not to take up too much at one time, lest frost should set in before it can be relaid, as it then gets spoilt for use. Any wheeling on garden walks should be done in frosty weather, or when it is dry and the crust of the paths hard. After a spell of frost, or heavy rain, or snow has melted, it is well to roll the walks and lawns, to keep them firm and neat. Flower-beds filled with spring-flowering plants, such as *Daisies*, *Wallflowers*, *Forget-me-Nots*, *Violas*, &c., should have the surface stirred occasionally, and be kept clear of weeds. *Daisies*, being shallow rooters, are apt

to be lifted out of the soil by frost, and after a thaw should be pressed down firmly into it. Beds or patches of *Hyacinths*, *Tulips*, &c., may have a top-dressing of leaf-mould thrown over them; it will tend to ward off the effects of frost, and make the surface light and open for the spring growth. Tidiness and order should not be neglected in the winter, any more than in the summer months.

COLD FRAME.—The advice given repeatedly to keep all plants fairly dry and clean at this time of the year cannot be too forcibly impressed on the minds of Villa Gardeners; it has much to do with safely wintering them. All cut-back plants may be regarded as at rest, and it will be an advantage to keep them dry, not dry enough to starve them, but so comfortable as that when frost comes, they will be in the least danger of harm. *Auriculas* should be dry, both on the foliage and on the surface of the soil. *Polyanthuses* may be kept a little moister. *Carnations* and *Picotees* in pots will require but little water, and must have all the air possible. Have some mats or other covering ready to spread over the frame when frost threatens. If green-fly infests the plants, a little smoke from tobaccoo-paper will soon get rid of it. Above all things, keep a dry bottom to the frame.

KITCHEN GARDEN.—On all favourable opportunities, when the surface of the ground is drying, and it is not too hard from frost or too wet from rain, let the necessary digging and trenching be done. No part of the surface should remain through the winter in a beaten-down state, which can be put into the much more favourable condition which is produced by its being thrown up roughly. Manure and leaves should be got together, both for the general manuring when required, and for bringing forward *Rhubarb*, *Seakale*, and such things. Anything may be done that will give the garden a neat appearance, and prepare the way for the active spring work, when the proper time comes.

FRUIT GARDEN.—*Currant* and *Gooseberry* bushes may be pruned, and the ground dug and if necessary manured about them.—*SUBURBANUS.*

NEW BOOKS.

 **MONGST** useful books recently published we should note a new edition of **SMITH'S FERNS, BRITISH AND FOREIGN** (Hardwicke and Bogue), which was issued during the latter portion of last year. The work is tolerably well known as an authoritative list of garden ferns, with generic characters and illustrations; and the present edition contains an appendix recording the recent acquisitions. It has the defect of stereotyped books, namely, that the

additions are printed far away from their allies, which is an inconvenience in tracing any particular plant; and in this case the evil is aggravated by an 'addenda' to the original work, besides the more bulky 'appendix.' There is, besides the enumeration of species, a considerable amount of information on the introduction and structure of our cultivated ferns.

— **WITH** the ROSE ANNUAL for 1877, by Mr. William Paul, the publication of this useful work is resumed, and we hope it may henceforward prove to be a true annual. It gives beautiful illustrations of four new Roses, including *Magna Charta*, *Red Dragon*, and *Rosy Morn*, all H.P.'s raised at Waltham, and a fine yellow Tea Rose, called *Perle des Jardins*. The drawings are from Mr. Fitch's pencil, and are very characteristic. There is a variety of useful information on Roses, Rose-culture, and Rose-shows.

— **THE ROSARIAN'S YEAR-BOOK FOR 1877**, edited by the Rev. H. H. Dombrain (Blackwood), contains notices of eleven Rose shows and some half-dozen short articles on Rosology, including such subjects as Rose-showing, Rose-Stocks, Weather of the Rose Year, the Best Roses, the New Roses of 1877, Tea Roses, &c. Those who take special interest in Roses will read it as a duty, since it is a handy record of some of the Rose lore of the year. The remarks on Rose-showing are much to the purpose. Is this the Rose book promised by the managers of the National Rose Society?

— **THE GARDENERS' YEAR-BOOK AND ALMANACK, 1878**, by R. Hogg, LL.D. (171 Fleet Street), is as usual an acceptable reference-book for the use of gardeners, the most important of its contents, from a horticultural point of view, being its descriptive lists of novelties, and its selections of fruits and vegetables.

— **OF** the ALBUM BENARY, the 5th part—Plates 17 to 20—has just been issued, and contains excellent chromoliths of *Capsicums*, *Kohl Rabis*, *Melons*, and *Radishes*, with the names of the varieties printed in four languages. It will form a useful and highly ornamental illustrated record of the types of our garden vegetables at present in cultivation.

— **SUTTON'S AMATEURS' GUIDE IN HORTICULTURE** for 1878 lies before us, and is very attractive in appearance, in its wrapper of bronze and gold. It contains much useful gardening information as well as many illustrations, besides the catalogue matter which it is its primary object to circulate.

GARDEN GOSSIP.

 **THE** Southern Section of the National *Auricula* Society has issued a list of the subscribers for 1877, with a statement of account showing a balance in hand of 1s. 6d.; and at

a meeting held on December 4, these documents, with the following resolutions, were directed to be printed and circulated:—“1. That inasmuch as the causes which called the Committee into existence remain in undiminished force, the President, Vice-Presidents, Committee, and Hon. Secretary be requested to continue their functions. 2. That the subscribers be gratefully thanked for the handsome support accorded to the Committee, congratulated on the beautiful display resulting therefrom on April 24, and respectfully urged to continue their support for the following season. 3. That a copy of these resolutions be forwarded to each subscriber, with a form to be returned to the Hon. Secretary, stating the amount of subscription such subscriber will be pleased to accord to the Society.” The receipts were £80 4s. 6d. A report in terms almost identical with the above was also adopted on account of the Southern NATIONAL CARNATION AND PICOTEE SOCIETY, the subscriptions to which amounted to £89 14s. 10d., and the balance in hand to £1 11s. 4d.

— A MEETING of the NATIONAL ROSE SOCIETY took place on December 6, J. Jowett, Esq., Hereford, in the chair. A statement of accounts was laid before the meeting, but owing to the auditor not having certified to their accuracy, through the absence of some vouchers, the formal passing of the balance-sheet was adjourned. The receipts were returned at £417 12s. 4d., including £302 15s. 10d. donations and subscriptions, and £67 16s. 6d. taken at St. James's Hall. The prize-money paid amounted to £147 10s.; advertising and bill-posting, £71 7s. 6d.; printing and stationery, £67 17s.; while other items brought the expenditure to £417 8s. 2d. The Crystal Palace Company had, it appeared, offered the committee the sum of £100, together with the services of their staff and exhibition appliances, if the show for 1878 were taken to Sydenham.

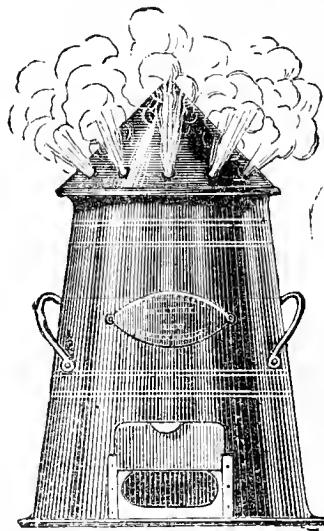
— THE ANNUAL MEETING OF THE ROYAL CALEDONIAN HORTICULTURAL SOCIETY was held in the Music Hall, Edinburgh, on December 6, Mr. Thomas Methven in the chair. The receipts during the past year amounted to £713 14s. 1d., including £416 16s. for annual subscriptions, £39 4s. for special prizes, and £214 18s. 6d. for drawings at the various shows. The expenditure in the same period was £697 7s. 10½d., which included show expenses to the amount of £256, and prizes to the value of £362. The balance on the year's transactions was thus £16 6s. 2½d.

— THE graceful HUON PINE (*Dacrydium Franklinii*) a very beautiful plant, is growing in the open air at Longleat, where, says the *Garden*, it is hardy and bears fruit. It has attained a height of 31 feet, the elegant branchlets being of a beautiful grass-green.

— IN the Glasnevin Botanic Garden, *CUSCUTA REFLEXA* has recently been very ornamental in the open air. This species has long been a pretty and interesting object in the cool greenhouse, where it clothed some of the plants with its pearly necklaces. Last year it occurred to Dr. Moore to try it out of doors, and it half clothed a *Forsythia* with its pretty bells. During the late autumn months the flowers were produced in marvellous profusion, in clusters of ten or a dozen, at short intervals all along the brown, fiddle-string-like twining stems. Each flower is nearly the size of, and not unlike in shape, that of the lily of the

valley, and is pleasantly fragrant. It is a Nepalese species.

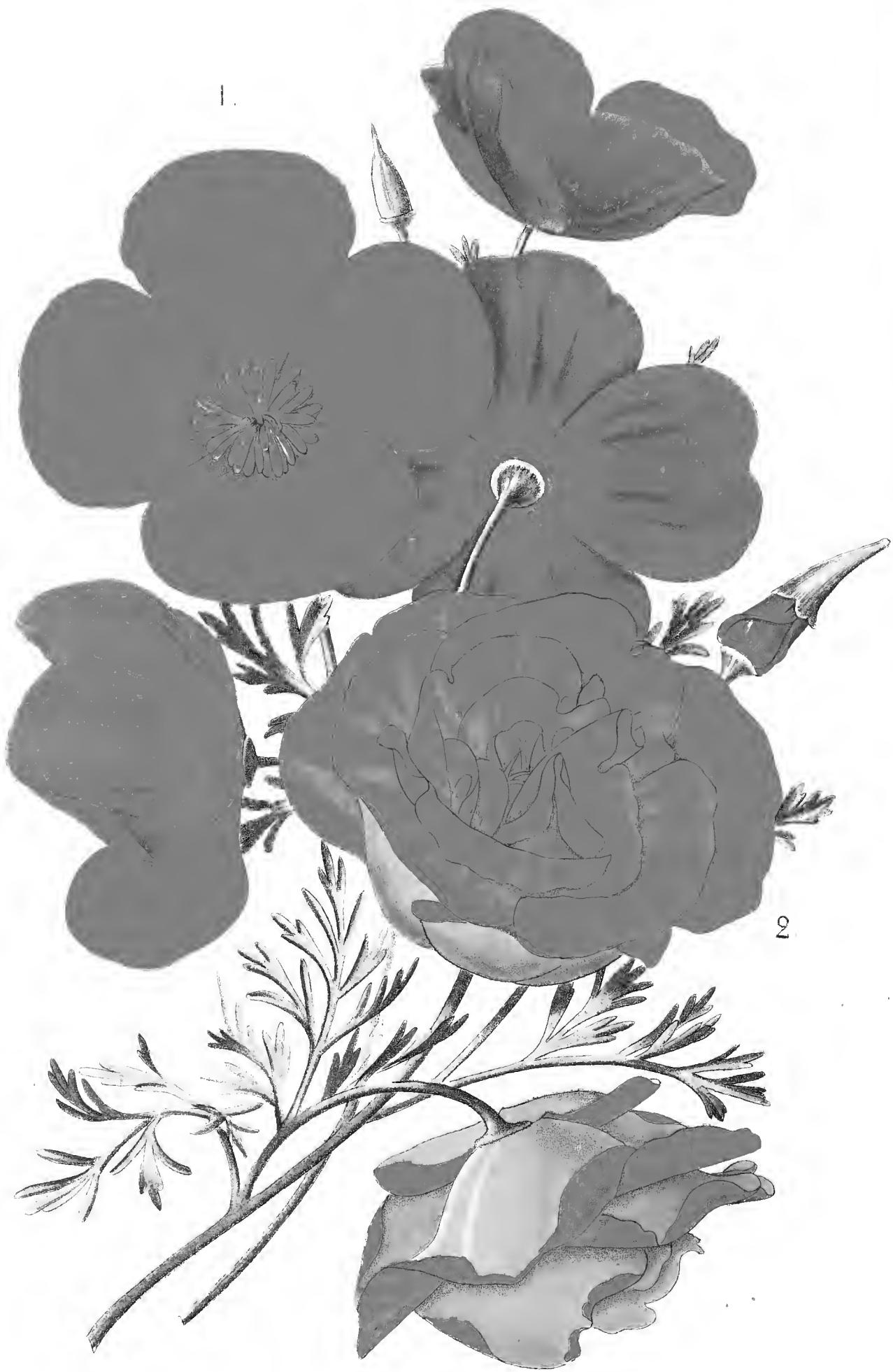
— AS a means of destroying insect pests by fumigation, **TEBB'S UNIVERSAL FUMIGATOR**, represented in the annexed engraving, may be recommended as being simple, handy, cheap, safe,



and reliable. It is self-acting, and though light, sufficiently strong, the parts being riveted together. The cut sufficiently explains its mode of action. It will burn any of the preparations of tobacco usually employed for fumigating purposes, and the materials used are not liable to burst into flame, but give off dense smoke if the draught is properly regulated. Full directions for use are given.

— ACCORDING to the *Irish Farmers' Gazette* the GREAT VINE AT THE VICEREGAL LODGE, Phoenix Park, is at least *one* of the finest examples of a single Vine, grown on what is called the extension system, to be found in these Islands. The crop last season was the heaviest it has yet matured, the size and weight of the bunches being beyond the average; not a few would turn the scale between 3-lb. and 4-lb. weight, the general run of bunches being fully 2-lb. each. The number of bunches was about five hundred, the heaviest being at the extreme end of the house, opposite to that at which the Vine is introduced, and from which rods are conducted horizontally the entire length of over 70 feet. Nothing could have been more robust, clean, and healthy than the foliago.

— THE GROS COLMAN GRAPE, writes Mr. Wildsmith, in the *Journal of Horticulture*, is a somewhat stubborn Grape to deal with, and more especially to colour well, but for the last four years we have had no difficulty in this respect. We have simply allowed the lateral shoots to extend themselves as much as possible a week or two previous to colouring, and when colouring had commenced did not remove a lateral from the vine. This, coupled with a reasonable amount of fire-heat, I believe to have conduced to perfect finish. Gros Colman is essentially the market-grower's Grape, being extraordinarily prolific, of grand appearance, and when fully ripened a long way above second-rate in flavour. We have had it in fine condition up to the end of January, and hope to keep it much longer this season.



M. M. M. 1881

1. *Eschscholtzia crocea* Mandarin. 2. *E. c. flore-pleno*.

NEW ESCHSCHOLTZIAS.

[PLATE 460.]

EW of our hardy annuals, or of the plants which though treated as annuals are, strictly speaking, of perennial duration, are more gorgeous in their floral effects than the *Eschscholtzia californica*, introduced from California, that realm of sunshine and flowers, about the year of grace 1826. The original form had yellow blossoms, with an orange or saffron-coloured blotch near the base of each of the four petals which form the flower. Of this two forms, reputed species, but, no doubt, wild seminal varieties, were introduced in 1833, namely, *E. crocea*, with the flowers wholly saffron-coloured, from which our present subjects have sprung; and *E. compacta*, which differed from the type only in its closer, denser habit. The two types, *californica* and *crocea*, have continued to be grown to this day, and as already noted, are amongst the most gorgeous of our hardy flowers. Several garden varieties which have been produced, as *alba* and *rosea*, were of little merit beyond curiosity. They were, however, welcomed as breaks from the original form, and as happens in many other cases, have led to productions of higher value, for we learn from the handsomely got-up *Vade-mecum* of Messrs. Carter and Co., who are the fortunate raisers of the novelties now figured, that *E. Mandarin* comes from *rosea*, which they place as a variety of *crocea*. It will be seen at a glance that it belongs to *crocea*, from the uniform orange hue of the interior, but it has the richly-coloured exterior added, which enhances its pictorial value in a

manifold degree. The double-flowered variety is also very distinct. Both are decided acquisitions, for which the hearty thanks of those who are interested in flower-gardens are due to the raisers.

E. crocea MANDARIN (fig. 1) was, as just stated, selected from *rosea* (itself a Continental selection from *crocea*), at the St. Osyth seed-grounds. A plant of *E. rosea* was some years since detected with a tendency to assume on the outside an orange instead of its normal pale rosy hue, and this was marked and seeded from, and after a few years' careful selection yielded the splendid variety called Mandarin, which to the rich saffron hue of *E. crocea*, adds a brilliant rufous-crimson or blood-orange, as the striking colour of the outer surface of the flower has been variously described. A mass of it must, morning and evening, show a splendid piece of floral colouring.

E. crocea FLORE-PLENO (fig. 2) has the flowers as densely filled as a well-formed double poppy, and the flowers must, therefore, be more durable, as double flowers usually are, since the multitude of petals serve to hold each other together. This differs from either of the types in being flaked or striped with yellow and saffron, as well shown in our figure 2, which, as well as fig. 1, has been prepared from specimens communicated last summer by Messrs. Carter and Co., the Queen's seedsmen.

It appears that another double-flowered variety was raised some forty years since, but it was probably not perpetuated.—T. MOORE.

PEACH-CULTURE ON THE OPEN WALL.

 **N**E would suppose that the cultivation of the Peach on open walls is a difficult matter, if we were to judge from the miserable specimens often to be met with. Some, indeed, go so far as to say that it is useless to attempt Peach cultivation except the walls are covered with glass. I cannot agree in this opinion, and I assert that there is no fruit requiring the assistance of a wall more easily cultivated than this, or with such certainty of yielding a crop of fruit year after year, provided a proper system of treatment be adopted.

Let us begin with the *Border*. Even this is not of so much importance as many persons suppose. When we consider that the Peach is always worked on the plum stock, and that the plum will grow and flourish in almost any soil, we may be fairly led to suppose that any good garden soil is suitable for the peach.

I should prefer keeping the roots to within 4 ft. of the wall, trenching the other part of the border every two years, and cutting away all roots that enter that part of it where vegetables are grown, so as to keep the roots confined to the four-foot space. Of course

they will be allowed to extend lengthwise, where they will have the advantage of warm, comfortable soil, and be quite under control, so that the trees may be fed with water or liquid-manure, as circumstances may require.

In preparing for planting, the border should be trenched 2 ft. deep and thoroughly drained, if it is on a strong clay subsoil; but if it be loose gravel at the bottom, so much the better, so long as there is a depth of $2\frac{1}{2}$ ft. of soil above it. Make the holes to receive the young trees 4 ft. wide and 1 ft. deep; tread the bottom of the hole, and place a layer of half-rotten cow-manure all over the bottom, and after this a sprinkling of soil, when the hole will be ready to receive the tree. Cover the roots with three or four inches of soil, and then pack round, near the edge of the hole, more cow-manure; tread it down and cover in with soil, and the work is complete.

After the second year, if any of the trees are growing too vigorously, or inclined to make *lateral* shoots, a trench should be cut out around them, at about three feet from the stem, or just outside the bank of cow-manure that was placed in the hole at the time the tree was planted. Fill in this trench to within a foot of the surface, then tread into it a good layer of manure, and fill up with soil. This should be done about the end of October or beginning of November. In after years this operation should be repeated, if the trees become over-luxuriant. This may possibly appear to many persons to be strange advice, but from the manure being placed close *at home*, as before stated, it will produce the opposite effect to *over-luxuriance*, by in great measure preventing the roots from running downwards and across the whole border, the effect of which latter would be to gorge the tree with crude sap. On the other hand, by the treatment here recommended the roots will fix on the manure with thousands of little fibrous mouths, and in the end these will be found to surround the tree like a cocoa-nut mat. It is feeders of this kind that are required to be developed in all fruit-trees, in order to produce fruitfulness and longevity.

It will perhaps be more useful to the amateur and young gardener, if I endeavour to point out some of the causes of failure in the cultivation of the Peach in the open air, rather than

attempt to give a detailed account of its culture, for which I should not now have space. To begin with young trained trees; when these are had in from the nursery, they should not be cut back the first year, but the soft tops merely should be cut off, or perhaps a shoot shortened here and there, in order to balance the tree. It is not an uncommon thing for the shoots to canker and die off, and often for the trees to die altogether, when cut back to within a foot of the stem. The trees will make plenty of shoots to choose from, to form the future tree when not cut back.

Then, again, another cause of failure is the severe way in which disbudding is carried on. Here I may remark that it is natural for all trees to *shade* their main branches; therefore it is quite contrary to nature to strip the trees almost bare. It is reasonable, then, to suppose that trees growing on a south wall, where the temperature in May often runs up to 120° , should require all the foliage possible to shade the branches. To this severe disbudding, together with the neglect of keeping them free from green-fly, I attribute the wreck of many Peach trees; and when the branches are bare, the sun will do the mischief by burning them. From this it will at once be seen that it is absolutely necessary to encourage all the foliage during the early part of the season, and disbudding should not be carried on to any extent till about the first week in June, when the trees ought to be making free growth and healthy foliage.

One of the main things to be ever in view is to keep the trees free from green-fly. These should be battled with on their first appearance. To destroy them, there is nothing better than a wash made of soft-soap, tobacco, and sulphur; 2 lb. of each will make about 30 gallons; strain through canvas, and use with the syringe. This wash is cheap, effectual, and easily applied, and will not do the slightest injury either to the foliage or young fruit.

I have already stated that disbudding or thinning the shoots should be only partially carried on before the middle of June, and even then a sufficient number of shoots to shade the branches must be retained, leaving the final thinning till the time arrives for nailing-in the young growth, which should not be proceeded with earlier than July. The shoots should be

left to grow at will until that time, except in the ease of leading shoots, which may be nailed in to prevent them from being broken by the wind.

In regard to the quantity of fruit a tree ought to carry, much will depend on its strength and condition. A tree in perfect health, covering a hundred superficial feet of wall, should bring to maturity eight or nine dozen of fruit of the finest quality, and so on, according to the space covered.

The trees may be syringed occasionally in the early part of the season, to cleanse them after the fruit is set, but on no account let much water touch the roots till July. If the weather be dry after that time, the application of water and liquid manure and mulching the borders would be beneficial; and when the fruit begins the *second* swelling, the trees should be syringed every evening in dry weather, this syringing being continued up to the time the fruit approaches maturity.

As soon as the crop of fruit is gathered, the trees should be gone over, and every useless shoot cut out, so as to expose the wood required for the next year to air and light. On getting the wood ripe and well hardened depends in a great measure the success of the following season.

I have thus far referred to the good and ill of Peach culture, and perhaps a word as to the best varieties for out-door culture would not be out of place. Many kinds are so subject to mildew and green-fly, that it is a great trouble to keep them in health, and for this reason they ought not to be planted; all such are easily known by their serrated or deeply-cut leaf. The following are among the best for open walls, and have the leaves smooth, or but slightly serrated:—Early Victoria, Grosse Mignonne, Bellegarde, Premier, Stirling Castle, Violette Hâtive, Buckingham Mignonne, George the Fourth, Lord Palmerston, Walburton Admirable, and Late Admirable. The above-named varieties, together with the Salway Peach, would keep up a supply from the beginning of August till the end of October. Among Neetarines, Violette Hâtive, Oldenberg, Murrey, Elrige, Lord Napier, Pine-apple, and Prince of Wales are among the best for out-door culture.

I am an advocate for protection in the spring, but this should be fitted up in such a

way that it can be easily removed in the day-time. Nothing can be better than canvas on rollers. I prefer it to any other covering, and it is both cheap and durable.—J. POWELL,
Royal Gardens, Frogmore.

TWO MONTHS OF CARNATIONS AND PICOTEEES.

(Concluded from page 12.)

CON Purple Flakes, *James Douglas* (Simonite), a large variety, combining the characteristics of *Juno* and *Mayor of Nottingham*, though with more substance of petal than the former, with an especially bright light purple, well maintained the high character with which it was introduced to the floral public; and *Dr. Foster, Earl of Wilton, Juno, Mayor of Nottingham* (albeit, the earlier blooms of this variety were somewhat overcharged with colour), *Premier, Squire Meynell, Squire Trow, and True Blue*, were good everywhere. A new variety, a sport from *Sarah Payne*, called *Sporting Lass*, was very chaste; but beyond all else, a variety, *Florence Nightingale* (Sealey) I had grown for the first time, though I believe not new, most pleased me. It was unique in its rich imperial purple, and lustrous white ground, and fine indeed both as a self and in its more elevated, variegated character.

In Scarlet Flakes, everywhere I found fine examples of *Annihilator, Clipper, James Cheetah, John Bayley, and Sportsman*, the latter being especially fine. In this class I have notes of seedlings shown by Mr. Buttram, of Burgh Mills, Mr. Jonathan Booth, of Failsworth, and Mr. Simonite, of Sheffield, but in each case I reserve an expression of opinion for further observation.

Of the old, well-established Rose Flakes grand examples of *James Merryweather, John Keet, Lovely Ann, Rose of Stapleford, and Sibyl* abounded, the latter having been produced at the Aquarium Show in a state never possible to be surpassed; whilst of varieties not as yet generally grown I saw beautiful specimens of *Cleopatra* (Hartley), *Cristagalli* (Whittaker), *James Carter* (Adams), *Mary Ann* (Fletcher), *Mrs. Dodwell* (Lord), *Mrs. Hurst* (Ingram), *Mr. Findlay* (Simonite), *Queen Boadicea* (Empsall), *Samuel Newman* (Hooper), and *Uncle Tom* (Bramma), the latter old indeed, but yet good. *Samuel Newman*, as shown by Mr. Douglas, was exquisitely beautiful, but I fear its colour is too pale ever to be good, save in exceptionally favourable situations, such as Slough and Loxford Hall. I have nothing to recall of anything I have written of the Carnation and Picotee as suitable subjects for the

suburban cultivator. For, as my own experience testifies, they will not merely grow, but flourish, and reward the cultivator with flowers of exquisite beauty, where other tribes die or dwindle; but it must not be supposed the same delicacy of colour or purity of ground can be attained in the dry and dusty, if not grimy and smoky, atmosphere of a great city, which will be, of course, in the pure, sweet air of the open country. This was a matter well understood by our florist fathers, who invariably in their competitions provided a special class for their less favoured fellow-cultivators.

In Picotees, Red-edged, of old varieties, the following were especially good:—*Countess of Wilton*, *J. B. Bryant*, *John Smith*, *Miss Small*, *Mrs. Bower*, *Mrs. Dodwell* (this latter so grand at Bradford, that it was only by one vote *Zerlina* won the premier place), *Peeress*, *Princess of Wales*, *Rev. F. D. Horner*, *Robert Scott*, and *Wm. Summers*. Of flowers new to me, *Thomas William* (Flowdy), light-edge, was everything that a light-edged Picotee should be, and will worthily compare with the grand trio of Mr. Simonite's in this class—unfortunately, such is the depleting influence of the Sheffield atmosphere, not yet accessible to his brother florists. In the heavy-edged class, *Mrs. Fuller* (the origin of which is unknown, but which has been brought into special prominence by its fine growth in the collection of Richard Gorton, Esq.), was very fine; and a variety of the late Mr. Norman's, called *Master Norman*, a very broad-edged heavy of a peculiar tint of colour, a repeat in the red edges of *John Delaforce*, by the same raiser, in the heavy-edged purple class, is a grand break, not merely to be valued for itself, but for that it may be expected to produce. Unfortunately, it appears to be a very shy rooter. To these, in my own collection I have added *Morna* and *Miss Frowd*, both productions of the Rev. C. Fellowes.

Purple Picotees are a large and varied class, and amongst these I saw everywhere fine flowers of *Alliance* (heavy), *Ann Lord* (light), *Alice*, *Chanticleer*, *Cynthia*, *Jessie*, *Mary*, *Mrs. Summers*, *Mrs. Niven*, *Minnie*, *Mrs. Douglas*, *Norfolk Beauty*, *Nymph*, *Prima Donna*, *Picco*, *Silvia*, and *Zerlina*, the latter especially superb, fully warranting the expression of its raiser, when offering it to his brother florists, that it was the best Picotee extant. Of varieties not yet distributed, or being now offered, I may enumerate *Mrs. Slack* (Simonite), a narrow-edged heavy, a grand variety, having a broader petal and a stouter substance even than *Mrs. Summers*, with the depth of colour and unsurpassable white ground of the famed Sheffield varieties; *Fanny* (Lord), medium edge, a worthy addition to the magnificent trio, *Alice*, *Minnie*, and *Zerlina*, distributed by Mr. Lord last year, now being sent out by Mr. Jonathan

Booth, of Failsworth; *Her Majesty* (medium), and *Leah* (heavy), two varieties already referred to as originated by Mr. Addis; and *Isabella* and *Novelty*, heavy edges, the productions of the Rev. A. Matthews. To these I must add *John Delaforce*, already referred to in my notice of the Red-edges, of which I am informed my stock, the produce of a solitary plant, alone remains to the cultivator, but which I trust, with care and patience, I may preserve for myself and brother florists, as I anticipate great things from its very marked character.

Rose-edges—loveliest of the tribe where all are queens—come last, and here indeed is beauty. *Edith Dombrain*, *Ethel*, *Fanny Helen*, *Juliana*, *Mrs. Allcroft*, *Mrs. Nicoll*, *Mrs. Lord*, *Miss Lee*, *Miss Wood*, old *Obadiah*, and *Regina*, were wondrously lovely; and of competitors newer to favour, *Miss Horner* must have a first place; and *Mrs. Adams* (Adams) and *Lady Louisa* (Abercrombie) will be welcomed wherever beauty is recognised and Picotees are grown. *David Motley* (Adams) I must see again before I can speak confidently of its character, but *Teresa* (Simonite), a bright light-edged scarlet, is a most beautiful sort; and *Fairy Queen* (Hartley) will find a high place, even in this highly esteemed class.

Here I finish my notes of the beautiful flowers it has been my privilege to see in the season now past; and here, perhaps, I should write "finis" to my remarks, and to my work amongst my friends and fellow-florists.* Increasing years, waning powers, and infirmities, intensified by a long life of commercial activities, from which even yet I cannot seek relief, painfully remind me that labours once so pleasant are no longer possible. But though I may no longer do what once, I think I may presume to say, I did—step out into the front and say to my brother-florists, "Come on"—I am sure they will not deny to me the privilege of grey hairs and matured years, but will follow my advice, and "go on."

In the face of many difficulties and of a season unpropitious beyond all remembrance, the cultivators of these flowers have produced a succession of shows worthy of high commendation, and obtained large favour in the eyes of the public. From all I yet know, the conditions of 1878, so far as the action of the larger Societies in the South is concerned, promise to repeat the conditions of 1877; and my advice to my fellow-florists, therefore, is that, as in 1877, so in 1878, they shall be "up and doing."—E. S. DODWELL.

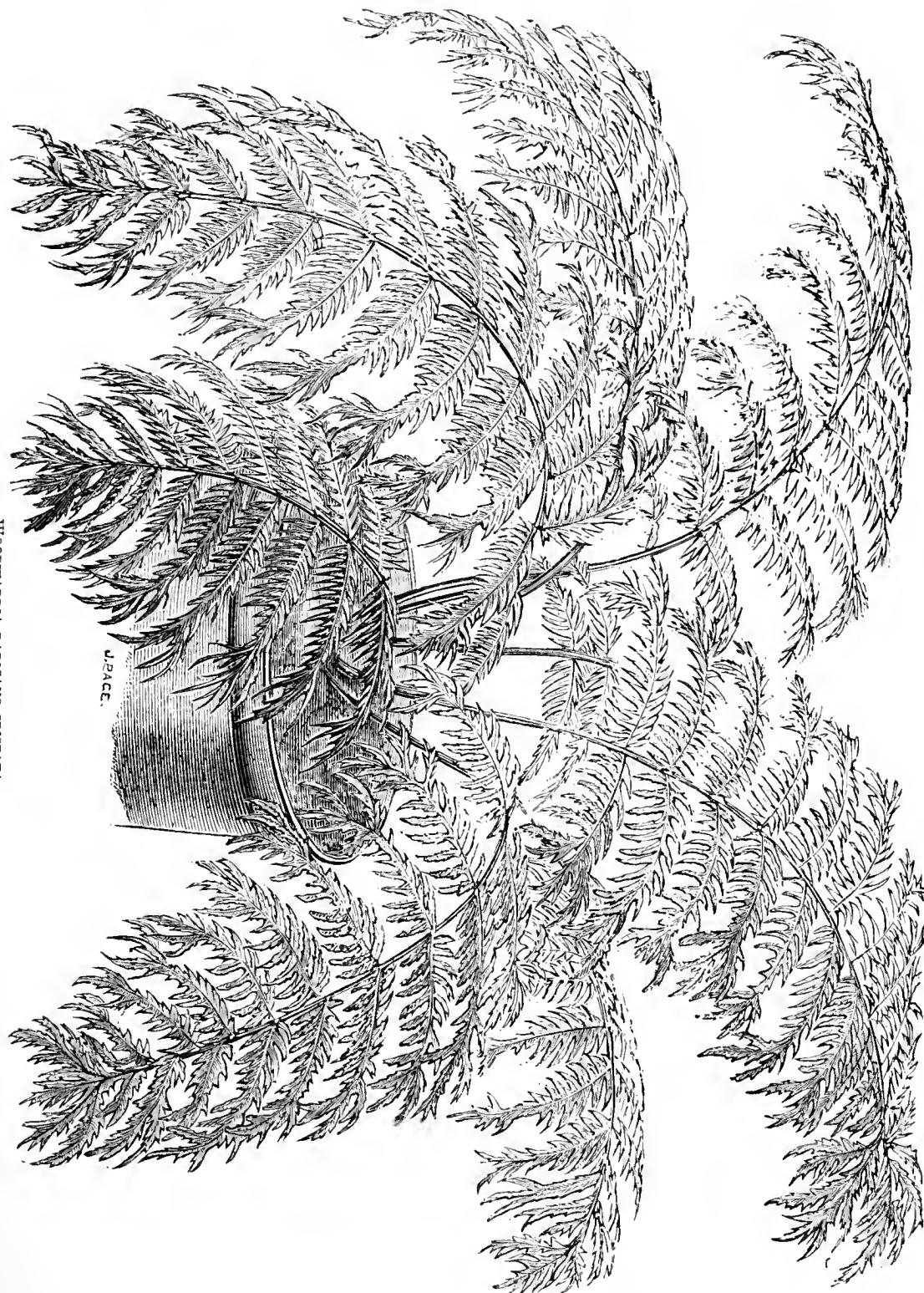
ERRATUM, p. 12, 16 lines from foot of col. a, for 'vigour,' read 'rigour.'

[* Mr. Dodwell's services in this department cannot be spared; and for the very sufficient reasons he points out, it behoves all true florists to support, by every means in their power, his efforts for the advancement of Floriculture, not, be it observed, in the spirit of opposition to the progress of general horticulture, but as helping forward the whole science, by specially promoting one of its branches.—ED.]

WOODWARDIA RADICANS CRISTATA.

THE typical form of this plant is well known as one of the finer of the large-growing greenhouse ferns of evergreen

character—sufficiently hardy to stand in an unheated glass-house, even though frozen, and sometimes surviving in sheltered places out of



WOODWARDIA RADICANS CRISTATA.

doors. One of its peculiarities consists in its forming a large bud near the apex of the frond, from which a stout young plant is produced.

Of this fern, a native of Madeira, a variety

with interrupted fronds has long been known in cultivation. Within the last few years, a much handsomer crested form, represented by the annexed woodcut, kindly lent us by Mr.

B. S. Williams, has become sparingly distributed in gardens. It is a very handsome plant, the fronds being regularly and symmetrically crested, of the same drooping habit as the parent, two to three feet long, the pinnæ all tasselled at their tips, and the top of the fronds also expanded into a broadly-cristate tuft. From its drooping habit, it will be a remarkably handsome basket-fern for the greenhouse and cool conservatory; and from its large size, it will make an equally elegant and efficient exhibition plant, or a fine pot plant for home decoration. Well-grown pot plants would serve admirably for furnishing a bracket, or for setting on a slender pedestal occupying a prominent position.—T. MOORE.

GLASS COPINGS FOR WALLS.

AVING devoted many years to the cultivation of Peaches and Nectarines in low-lying situations, liable to be effected by early autumn and late spring frosts, I have found that the use of glass copings, combined with the Trentham system of frequent lifting and replanting in pure loam, furnish the most successful means of ensuring satisfactory results. Where glass copings have been tried during the season of 1877 for the first time, their condemnation would be unfair, as half-ripened wood never produces good crops of fruit. Some years ago, I placed glass copings over four Peach-trees on a wall 80 ft. in length; and although I have lost crops of fruit and the trees also on other walls protected by boards and fishing-nets, I have never missed gathering a crop from the glass-coped trees. Last year, so fatal in many places, their foliage was quite clean and free from curl. The fruit set well, and required frequent thinnings, and the trees are again furnished with promising wood. The other set of trees to which I have referred, on a higher level, consequently a better wall for resisting the effect of cold, was so much injured by blight and curl, that the crop so failed, and many of the trees have had to be removed.

Glass copings should be light, portable, and inexpensive. Mine are twelve feet long, of plain deal, grooved and painted, the glass (21-oz.) being slipped into the grooves, and the last square fastened by a small screw. They are placed over the trees before the blossoms

open, and remain on until all danger from spring frost is over. They are then taken away to the store-house, and the trees are well syringed, mulched, and watered.

In elevated gardens enclosed with high walls slight protection is all that is required for securing crops of fruit. At Madresfield Court, the magnificent set of Peaches and Nectarines was last year laden with fruit, and the only protection Mr. Cox uses is two or three folds of fishing-net, but then his walls are high and well coped, and he has wisely selected an open, elevated position for his new kitchen garden.

In making a selection of trees for low, damp situations, I have discovered that short or half-standards on the Mussel stock are hardier and last much longer than the ordinary dwarf tree, which is worked a few inches above the level of the ground.—W. COLEMAN, *Eastnor Castle*.

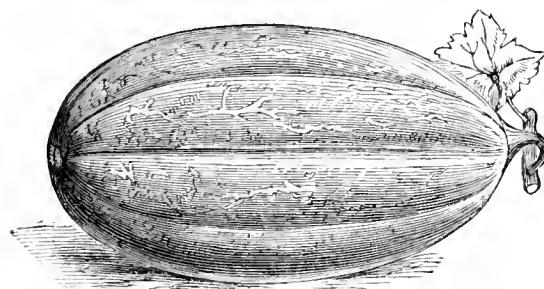
NEW FRUITS AND VEGETABLES.

NEW FRUITS OF 1877.

HE past year (1877) will stand on record, like its predecessor, 1876, as one of the lean years as regards the production of fruits. No more ungenial spring succeeding an open, mild, wet winter was perhaps ever experienced, and the coldest period occurring just as the fruit-trees were blossoming and setting their fruits, the result was an almost entire failure of out-door fruits. We, at the same time, mourn the loss of one whose name has so often appeared in the front rank as the introducer of novelty in fruits—Thomas Rivers.

Of Grapes we have no novelties of any particular merit to allude to. Several new seedlings and introductions have appeared, but they have proved either inferior, or similar to existing varieties. Messrs. Lee bring forward one named *De Coster*, but there is no information to be obtained about it. Another reputed new sort appears in Belgium, which seems to be identical with our Muscat Hamburg. Last year we had to notice the introduction of a good late Grape, called Clive House Seedling: this name, from some irregularity, was changed to *Alnwick Seedling*, by which designation it is now known. It is no doubt the best late Grape of recent introduction.

Of Pine-apples, which are being less and less cultivated every year in this country, we have to thank Mr. Miles, of Wycombe Abbey Gardens, for preserving to us and bringing into notice, a very meritorious sort for winter use. This, for want of a knowledge of its true history, has been provisionally named *Lord Carrington*. It is of the Montserrat or Black Jamaica class, but very distinct and excellent.



CARTER'S CREAM PINE MELON.

In Peaches we have no new introduction to notice. It may be noted, however, how splendidly the Lord Napier Nectarine appeared everywhere. This may now be classed as the largest and best of early Nectarines.

A kitchen Apple of considerable merit, although not new, was only last season brought into general notice by Mr. Killick, a very ardent fruit cultivator. We allude to *Stone's Apple*, which has also been called Loddington Seedling and Mapson's Seedling; it is recommended as being an extraordinary bearer; the fruits are very large, handsome, and of good quality. In Pears we have a fine variety in *Williams' Victoria*.

Of Strawberries, usually so plentiful, we

have had a few promising varieties brought under notice; the best is Mr. Douglas' *Loxford Hall Seedling*, of the British Queen class.

In Figs, there is *Hardy Prolific*, a variety which, if it possesses the two qualities indicated, "hardiness" and "prolificness," will be very valuable.

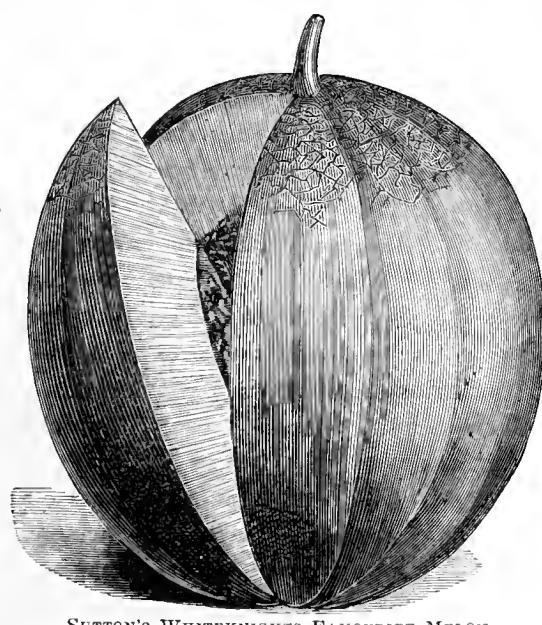
Melons, as usual, afford novelty, at least in names; but this season there is a genuine novelty in Carter's *Cream Pine*. This is a distinct species, of long ovate form, with firm solid flesh throughout. It will keep long after being cut and ripe, and is of good quality. Messrs. Sutton and Sons have a *Pear-shaped* variety. Another good sort will be found in *Excelsior*, a green-fleshed variety of excellent quality; and the same may be said of Sutton's *Whiteknight's Favourite*.

The Plums bring us no novelty; neither in Currants, Goosberries, and other small fruits is there anything new to be noted.

NEW VEGETABLES OF 1877.

Good vegetables are secured more frequently by a careful selection of seed than in any other way, and the high quality which they have attained is chiefly due to the great care of our enterprising seed-growers. If we take Peas first in order, we have of late years had considerable novelty in this class, but if we are asked to reckon up the decided acquisitions, they are not so very numerous. The *Criterion* of Messrs. Veitch has, however, proved equal to its recommendations. We must also speak well of Mr. Turner's *Dandie Dinmont*, a green Marrow of fine appearance; and Sharp's *Invincible* is also highly spoken of.

Potatoes at all times share a considerable amount of attention, and many new varieties are annually introduced. Of new varieties we put in the front rank as a general cropping Potato, Sutton's *Magnum Bonum*; and an excellent round white variety of very distinct character is *Criterion*, raised by Mr. Moss, of Welford. Mr. Turner's *Early Bird* is a fine variety of the Ashleaf. The *Vicar of Laleham*, a sort of purplish Victoria, is very handsome and good. *McKinlay's Pride* is a very fine white kidney. *Radstock Beauty*, *White Emperor*, and *Ice Cream*, are all sorts of handsome appearance and very promising, and so is *Bedfont Prolific*, which is a seedling of the noted Mr.



SUTTON'S WHITEKNIGHTS FAVOURITE MELON.

Fenn's, and hails from Bedfont, a place becoming equally noted for Potatos. Of American varieties a good many have appeared during the past year; but although handsome in appearance, it is premature to speak of them as suited for cultivation in this country.

Amongst Cabbages, an inspection of the extensive collection growing at Chiswick last year enables us to note several very distinct and little-known forms. The *Early Boulogne* is one of the very earliest of Cabbages. *Louviers* is an excellent early variety with the character of Little Pixie or small Oxheart. *St. John's Day Drumhead*, although not new, and the *Winnigstadt*, must be noted as two of the finest of all Cabbages for autumn use. *Jersey Wakefield* is a very large-heating sort from America. The *Quintal Drumhead*, a low-growing large-heating sort, is very fine, and the *Bacalay* may be noted as a very beautiful and distinct sort. Of pure novelty the thick-leaved *Coutances*, a large strong-growing sort, with very thick fringed leaves, and forming white hearts; and the *Glazed American*, a variety with deep green, shining leaves, are the most noticeable.

Of Savoys, the finest of the early sorts proved to be the *Earliest Vienna* of Benary, and another very distinct variety is the *Early Lienay*, forming deep-green open hearts, which stand uninjured in the severest winters. Of the large varieties, the *Des Vertu* is a splendid sort.

In Cauliflowers and Broccolis, which we class together, we have a fine addition in *Veitch's Self-Protecting*, succeeding the *Autumn Giant*. *Sutton's Late Queen* is also specially to be recommended.

Of Kidney Beans we have not so many aspirants as usual. *Sutton's Ducrot* is stated to be very excellent.

Turnips furnish us with no novelty or improvement, although new names were abundant. It may be noted, however, that the strap-leaved varieties have proved by far the earliest of any.

Tomatos furnish us with a little novelty, and three gains in this now extremely popular vegetable or fruit, as the case may be—for many of the smaller sorts are used purely as dessert fruits, and eaten in a raw state. *Early Gem* is a very early sort, of medium size, and very valuable on that account. The *Criterion*,

or *Vick's Improved*, is the greatest novelty, and is a decided acquisition—the fruits large, ovate in form; and of a beautiful carmine-red colour. *The Trophy* is a very large sort, fine for exhibition purposes. *Conqueror* and *Portsmouth* are also early, hardy, free-fruiting sorts, good for open-air cultivation.—(Abridged from the *Gardeners' Chronicle*.)

ADVANCES AMONG PRIMULAS.

THAT there is a marked improvement going forward in the Chinese Primrose will be evident to those who have seen the grand forms which have been exhibited of late years. The many superb double varieties, of which that which we recently figured is one, show a very decided advance; for useful as is the old double form, the newer ones far surpass it in quality. But this is not the only direction in which progress is to be observed. The single-flowered sorts have been perhaps even more improved in size, in substance, and in colouring. A batch of these has recently come before us, and in them we find these important qualities to be specially well marked. We refer to some choice forms which have been bred by Mr. Tomkins (Sparkhill Nursery, Birmingham), and of which we propose to specially notice four—namely, two white-flowered and two bright red varieties.

Of the white, the best known is that called PRINCESS LOUISE, previously known as Marchioness of Lorne. This is a large pure white of remarkable substance and boldness of character, with a well-marked yellowish spot, and perfectly flat. It has foliage of the typical palmatisid type. A newer variety called MONARCH is larger than this, but equally pure, equally stout, and considerably more frilled, so that it is scarcely so symmetrical, but is nevertheless a bold and striking flower of great endurance. This has a bold yellowish eye three-quarters of an inch across and differs essentially in having the more novel fern-like foliage characteristic of some of the sports.

Of the carmine-red sorts just referred to, both are far in advance of anything yet in general cultivation. In size the flowers vie with the largest, in substance they compare favourably with the stoutest, while in colour nothing approaches them for brilliancy of hue. They



J. T. F. Ehrenberg del.

Picotées

1. Miss Horner. 2. Alice. 3. Zerlina.

belong to the group which originated in ker-mesina, the colour of whose flowers may be described as carmine-rose. The brightest of these is SCARLET KING, which has flowers of a particularly brilliant tint, with yellow eye, and associated with the old-fashioned palmatifid leaves; while SUNRISE, which is a fern-leaved sort, scarcely falls behind this in the delicacy of its rosy-salmon colouring. These grand varieties, it is said, come true from seed. Another near approach to scarlet has been raised at Chiswick, from seeds of M. Vilmorin's strain.

The system of culture practised at the Sparkhill Nurseries has been thus described:—The compost used is a mixture of burnt earth, stiff loam, old mortar, charcoal, very rotten cow-dung and leaf-soil, well mixed together, the roots having a great liking for the pieces of mortar and charcoal; this compost does not necessitate much drainage, as it

is sufficiently porous in itself. The crown of the plant is kept low down in the soil in potting, as from this part are thrown out many surface-roots, which add much to their vigour. Seeds are sown at intervals from March until May, so as to insure a succession, the earliest batch furnishing the earliest bloom. Cuttings of special sorts are struck in the spring in a gentle bottom-heat. The plants are grown in a low span-roofed house, with ventilation at the sides as well as at the top, and in brilliant weather the light is subdued by a little shading, too much exposure being avoided. Careful watering is essential, and tepid water is always used, watering over the foliage until the plants begin to flower. Manure-water is used most carefully, for the roots are so sensitive that mischief is soon done from an overdose; it is, however, used frequently, but in a very weak state, and always in a tepid condition.—T. MOORE.

NEW PICOTEE.

[PLATE 461.]

HE varieties of Picotee which form the subject of our present illustration, are the productions of Mr. Robert Lord, of Todmorden, and will confer an additional lustre on a name already of wide celebrity as the raiser of Ann Lord, Mrs. Lord, Rev. F. D. Horner, and Minnie.

Our friend Mr. Dodwell, in his "Descriptions of the Best Varieties, Old and New," published in our volume for last year, has given at pp. 129, 131, and 158, a full account of the characteristics of these beautiful sorts, and there the interested reader will find all the particulars he can require for the complete development of the beauty our artist has so successfully delineated. The portraits were sketched under the supervision of our friend, and with reference thereto, with some of that enthusiasm which readers of his papers may probably

think characteristic, he writes:—"Mr. Rosenberg deserves high commendation for the excellent portraits he has given us, more especially in the case of Miss Horner. But while Art is delightful, Nature is inimitable, and the spectator will feel the full beauty of their rich translucent white grounds, the depth and fullness and completeness of their form and substance and exquisite markings, only when he has these lovely flowers from Nature's own hand before him."

ALICE (fig. 2), and ZERLINA (fig. 3), were distributed in the autumn of 1876, and are now the possession of almost every cultivator of this much-admired tribe.

MISS HORNER (fig. 1), has, we understand, passed into the possession of Mr. Jonathan Booth, of Failsworth, Manchester, and is now being offered.—T. MOORE.

SCARLET TREE CARNATION A ALÉGATIÈRE.

HIS charming perpetual-flowering Carnation was exhibited at the December meeting of the Royal Horticultural Society, and was very deservedly awarded a First-class Certificate. It has been described

in some of the gardening papers as a scarlet Pink, but on what authority I cannot tell, unless it is on account of its remarkably dwarf habit—it grows only from 12 in. to 18 in. high, and produces quite an abundance of blossoms. The

colour is bright scarlet ; the petals very smooth on the edge, forming a good, well-shaped flower. It has a good pod, and does not burst, particularly if the calyx-lobes are just opened at the tip before the flowers expand. This variety will not only be useful for furnishing cut flowers, but it is so robust, and of such a dwarf bushy habit, that it will make an excellent plant for growing in pots for decorative purposes. Indeed, we have in this novelty obtained a great acquisition to this class of plants, and one which is no doubt destined to become an universal favourite. It is of Continental origin, and will be distributed by Mr. Turner, of the Royal Nurseries, Slough, who has become possessor of a large amount of fine healthy stock.

These dwarf-growing perpetual-flowering varieties are certainly great improvements on the old tall-growing sorts, most of which have been discarded, and their places filled up with excellent dwarf-growing kinds. Some of these latter will be found very suitable companions to this *A. Alégiatière*, such as

GUELDER ROSE (*Turner*), large, pure white, beautifully fringed, very free.

ROSE PERFECTION (*Turner*), very bright rose.

SIR GARNET WOLSELEY (*Turner*), buff ground, striped and edged with red, large and very fine.

MISS JOLLIFFE (*Masters*), pale pink, very free.

EMPEROR OF GERMANY (*Turner*), fine large white, slightly marked with bright rose.

The above are quite distinct, and all of very dwarf habit. I might enumerate several others that have very fine flowers, but for the most part they are not of the same dwarf habit as the foregoing.

As Tree Carnations are generally of but little use after the second year of blooming, it is necessary to have a succession of young plants struck from cuttings every season. This should be done as early as possible, in order to obtain good-sized blooming plants for the next season. From the middle of February onwards to the early part of March is the best time to propagate them. They strike readily from pipings if placed on a little gentle bottom-heat. As soon as they are struck, pot them off into small pots, using a mixture of good turfy loam, rotten manure, and a little silver-sand. Keep them in a free growing state, and repot them whenever necessary, until they are in 32-sized, or 6-in., pots, which is a very suitable size to bloom them in. They should be grown in the open air during the summer months until early

in October, when they should be put into a cool greenhouse. The plants will then flower freely through the autumn and winter months.—
JOHN BALL, Slough.

MARKET PLANTS.—I.

HYACINTHS, NARCISSI, TULIPS, ETC.

ANY one walking through Covent Garden Market at this season of the year cannot help being struck not only with the quantity of Tulips, Hyacinths, Narcissi, Roman Hyacinths, Lily of the Valley, &c., which are sent into the market, but also at the early season of the year when they are to be had, and their general excellent quality. Gardeners who visit the market (and an observant mind can there find much to interest and instruct) are obliged to institute comparisons between what they see, and what they and others are in the habit of producing, to the disadvantage of the latter. The fact is, the practice of growing plants for market has been reduced to something like a science—it is done rapidly and thoroughly, and with the best results. Let me endeavour to show how these things are done, for the modes of doing them are full of sound teaching.

Before the consignments of Hyacinths and other bulbs are forwarded from abroad to the large trade houses, who take the pick of them, large quantities are sent over to the market growers. As early in August as possible, early white Roman Hyacinths and Double Roman and Single Paper-white Narcissi come over in great numbers, from France chiefly, but some also from Holland. These are grown mainly for cut flowers, and they appear in the market early in October. The Narcissi are the first operated on after their arrival. They are planted in 48-pots, four, five, and six bulbs in a pot, according to their size ; there is but little room allowed, but then all the lower portion of the pot is utilised for the purpose, drainage being but of small consequence. In potting, the bulbs are buried to a depth of a little more than one-half. The potting done, a space is cleared in the open ground, generally by the side of a walk, and a layer of cinder-ashes is placed over it. On this the pots are placed close together, so many rows deep, according to the space, and then covered with about six inches of thoroughly decomposed manure and

spent hops mixed together. The rains falling on the covering carry down into the pots rare fertilising influences ; the pots are snug and warm ; a vigorous root-growth soon commences, followed by the throwing up of strong flowering shoots, which pierce the covering and show above it. They get no attention, not even watering, unless the weather be exceptionally dry ; the rains of the late summer and the moist character of the covering keep the roots as damp as is necessary. Then, as soon as the sheath separates and shows the bud, the plants are taken into a stove, placed thickly on a stage, and kept well watered ; and there they throw up trusses of bloom which in size and beauty are far beyond what one is accustomed to see in the Paper-white and Double Roman Narcissi grown in the ordinary way. Both are sweetly fragrant, and during November, December, and onwards, the flowers find ready sale in the market. No plants of these are sent there on sale.

Roman Hyacinths are treated somewhat differently. Their charming fragrant white blossoms are the first to appear of the imported roots, and rapid production is the rule. To have flowers only, the bulbs are put thickly in small pans, pots, or boxes, set into a striking-frame in a stove or propagating-house, in a brisk bottom-heat, and in a short time the flower-stems are thrust up almost before a leaf puts in appearance. The plants that are sent into Covent Garden Market so early in the winter are grown in pots, four or so bulbs being placed in a 48-pot, started into growth in heat, and brought on into flower in a rather cooler temperature. Thousands of Roman Hyacinths are grown in this way.

The Tulips, Crocuses, Hyacinths, and later-blooming Polyanthus Narcissi come on about the middle of August. Crocuses are not much grown ; but Tulips in great plenty, especially the white, rose, and scarlet Van Thol, Golden Prince, and one or two other early-flowering varieties. The Hyacinths are of certain early-blooming varieties also.

The Tulips are in the first instance put in shallow wooden boxes, and stood out-of-doors under a coating of dung and hops, in the same way as the early-flowering Narcissi. Some of the Hyacinths and Narcissi are put in boxes also, but the great majority in pots, two or

three in a pot. All are placed out-of-doors, under the manure covering, to start into growth. The advantage of growing Tulips in boxes is, that as they come into bloom, the earliest of them can be lifted and put into pots. This can be done up to the middle of February. After that, they are planted in and grown on in pots, as they would flag too much after being transplanted when the days lengthen, the sun is bright, and the atmosphere is warmer.

The bulbs may be said to represent the first series of foreings. In the autumn, there are Poinsettias, Cyclamens, Bouvardias, Tuberoses, Mignonette, Richardias, Double White Primulas, Pelargoniums, Eueharis, Gardenias, &c., coming into bloom, and the modes of growing and blooming these shall be treated of in subsequent papers.—RICHARD DEAN, *Ealing, W.*

VILLA GARDENING—FEBRUARY.

“ **H**AT extraordinary weather !” is the remark heard on every hand. In the autumn there were not wanting those who predicted a hard winter ; but here we have had the atmosphere as soft and balmy as in April, and as far as indications of wintry weather are concerned, they appear to exist as yet only in the imaginings of the prophets. The weather is now favourable to out-door gardening operations, and they should be pushed on without delay.

GREENHOUSE.—A little more fire-heat may be applied when the weather is dull and cold, as many early subjects are advancing into bloom, and a little artificial warmth is of great assistance. *Cinerarias*, *Primulas*, and other soft-wooded early-flowering plants, should be kept as near the glass as possible, but where they can have a free circulation of air in favourable weather. In a close atmosphere these plants draw, and green-fly gathers about the shoots. Plenty of water and air should now be given to all things that are growing freely, keeping the lights shut on the side of the wind, so as to avoid cold currents. Hard-wooded plants, and indeed any that have been kept dry all winter, will in many cases need to be plunged to the rim of the pot in a pail of tepid water, to thoroughly moisten the ball of earth before repotting is done. When this is not done in spring, plants like *Azaleas*, *Epacris*, and others, that form dense balls of fine roots, having once got dry, the water never afterwards wets the roots properly, but runs away down the sides of the pots, and after

languishing some time, the plants die altogether. This is a matter that cannot be impressed too closely on the attention of the amateur. Store-plants in pots and cutting-boxes should now be potted off, and any old plants of last year reserved for cuttings should be put into a gentle warmth, to push them into growth. *Salvia patens*, *Petunias*, *Fuchsias*, *Heliotropes*, *Chrysanthemums*, and other useful plants for the summer garden, can be increased in this way. Examine all plants of free growth for green-fly, and fumigate the house with tobacco-smoke, syringing the plants directly after. A little seed of *Lobelia speciosa*, *Petunia*, *Phlox Drummondii*, *Stock*, *Mignonette*, and other popular flowers, should now be sown in a little warmth. In this way, good strong plants can be had by spring, which soon make a display in early summer. Keep soft-wooded plants clear of decaying leaves, and stir the surface-soil occasionally.

COLD GREENHOUSE.—Here things are mostly quiet, and it is best for them to remain so, with the exception of such as are nearly hardy. *Crocus Imperati*, *Anemone fulgens*, *Hepaticas*, and some of the early-flowering *Violas* are pretty things for the cold house just now. Water sparingly at present. Amateur gardeners are strongly tempted to give good soakings, in their impatience to see the plants making headway; but the winter is by no means past, and there is no knowing how soon frost may appear on the scene. Patience is a virtue in plant-growing, as in many other things.

FLOWER-GARDEN.—In drying weather lightly fork flower borders, but beware of doing injury to the crowns of plants beginning to swell with growth. If the wet weather has delayed any planting, let it be done at once. The impulse to grow will soon be strong in many plants, and they should be in the soil without delay. Frost tends to throw newly-planted subjects up out of the soil; as soon as it thaws, they should be pressed down firmly. Many things are lost in this way, as the worms complete the work of ejection commenced by the frosts. The villa gardener must now look ahead. *Dahlias* should be set to work in a dung-frame about the middle or end of the month, and in this frame such seeds may be placed as there is not room for in the warm greenhouse. Now is the time to sow a little seed of such useful perennials as *Aquilegias*, *Canterbury Bells*, *Delphinium*, *Foxglove*, *Campanulas*, &c., so as to have good strong plants to put out in May. If the beds for spring display are not planted, let it be done at once. Good *Daisies*, *Wallflowers*, *Pansies*, and *Polyanthuses* can now be had in plenty and at a cheap rate, and there is good time for the plants to get well-rooted before the blooming

season. Cut back hardy *Clematis*, thin out climbing *Roses*, and get all hardy creepers put trim and straight for the spring.

COLD FRAMES.—*Carnations* and *Picotees* in pots waiting to be planted in larger pots for blooming in the summer should have plenty of air, and the foliage be kept clean; any intended for the open border should be planted out towards the end of the month. Now is the time to pot up a few plants of *Violets*, *Myosotis dissitiflora*, *Dielytra spectabilis*, *Anemone fulgens*, *Cheiranthus Marshallii*, *Saxifraga granulata flore-pleno*, *Iris pumila*, and the many other early-flowering hardy plants that are so charming in early spring. They come into bloom before those in the open air, and their flowers are safe from injury from frost. *Lilies* may be repotted towards the end of the month. *Primula amœna* and its varieties are now making growth, and plenty of air should be given them. If not already done, repot at once, but it is always best to do this in October. *Auriculas* may still be kept fairly dry and near the glass, with plenty of air. If excited into growth early, a check sometimes comes, and the plants rarely bloom so finely in consequence. Keep the surface-soil of the pots stirred, and on no account allow anything to become drawn for want of air.

KITCHEN GARDEN.—Plant a few early *Potatoes* on a warm border, but instead of rank manure, use as fertilisers charred rubbish, old mortar, soot, lime, &c., mixed together, spreading a dressing of this and leaf-mould over the tubers. In a warm spot sow a few *Seville Longpod Beans*, *Wood's Frame Radish*, *French Horn Carrot*, *Reading Onion*, and *Paris Cos Lettuce*. Make new *Asparagus* beds, plantations of rhubarb, beds of herbs, &c. Some of the earliest of the established roots of rhubarb may now be covered with seaweed pots or cement easks, and some dung and leaves placed about them for forcing. Sow a few *Advancer*, *Princess Royal*, and *James's Prolific Peas*. These are good early dwarf free-branching sorts of excellent quality. Use the hoe freely among growing crops.

FRUIT GARDEN.—Let the pruning of all fruit trees be pushed on in favourable weather, so that all planting among or near the trees can be proceeded with as desired.—**SUBURBANUS.**

DRACÆNA ROSEO-PICTA.

UR illustration represents a plant of robust habit and bold aspect. The leaves are suberect or slightly spreading, from 18 in. to 20 in. long, including the foot-stalk, with a width of 4 in. They are beautifully coloured with a delicate rose tint, which deepens by age to a bright crimson, finely

contrasting with the ground-colour, which is of a deep olive-green. It appears to have a very

hardy constitution, which enhances its value as a fine decorative plant. It is also useful



DRACENA ROSEO-PICTA.

for exhibition. Such is the description given by the raisers, Messrs. Veitch and Sons, of

Chelsea, to whom we are indebted for the use of the woodcut.—T. M.

WHY DO CAMELLIA BUDS FALL?

IHIS is a question that often presents itself to the cultivators of this most useful winter-flowering shrub, and various reasons have been assigned, such as too high a temperature, too much or too little water, &c. That these conditions do cause the buds to fall I am aware,

but I am induced to believe there are other causes. I particularly noticed last year a good plant growing out-doors in Kent, in a position sheltered from north winds, and in a sandy soil, with good drainage, but where it was not too dry, the last season being exceptionally wet and mild, yet still a quantity of buds fell off.

This led me to the conclusion that the plant was not able to carry such a quantity of bloom, the first of which expanded in February, and a succession of which continued to open for some time. This plant had just commenced making its new growth when the disastrous frost in the early part of May occurred, and cut very severely; but it fortunately broke back, and I have no doubt will bloom well this season.

Camellias in pots generally receive very different treatment. They are potted in bad soil, and during the summer months when turned out-doors very often want for water; then of course the buds drop speedily. Camellias blossom freely enough out-doors in the south, but the flowers are apt to be damaged by rain and frost. They succeed best in a cool house, and planted out in a well-drained border, the soil being composed of turf, loam, peat, and sand. They should at all times receive plenty of water, and when the buds are formed they will be benefited by having weak liquid manure.—GEO. POTTS, Jun., *Red Rice Gardens.*

GARDEN GOSSIP.

XHIBITIONS and meetings have been fixed for the following dates:—ROYAL HORTICULTURAL SOCIETY: Great Summer Show, May 28-31; Provincial Show at Preston, July 10-13. Fruit and Floral Committees, January 15; February 19; March 5, 19; April 2, 16; May 7, 21; June 4, 18 (this being also a Rose show and the Pelargonium Society's show); July 2, 16; August 6, 20; September 17; October 15; November 19; December 17.—ROYAL BOTANIC SOCIETY: Spring Shows, March 27, April 24. Summer Shows, May 22, June 12, July 10; Evening Fête, June 26. Mr. ANTHONY WATERER'S exhibition of Rhododendrons to open about June 1, and Messrs. CARTER and Co.'s exhibition of flowering and fine-foliaged annuals to be on view during June and July.—CRYSTAL PALACE: National Auricula Society's Southern Show, April 25; Great Flower Show, May 24-25; National Rose Society's Show, June 29; Autumn Fruit, Flower, and Potato Show, September 26-27.—THE ROYAL MANCHESTER BOTANICAL AND HORTICULTURAL SOCIETY: Floral meetings, March 19, April 30; National Horticultural Exhibition, June 7-14; National Rose Society's Show, July 6; Cottagers' Show, August 3; Chrysanthemum Show, November 26.

— THE ROYAL HORTICULTURAL SOCIETY has just appointed as ASSISTANT-SECRETARY an able and zealous officer, in the person of Mr. S. Jennings, who is favourably known for his horticultural work at Calcutta, Allahabad, &c., and his authorship of a book on Orchids. The want of an active and acting head to take the general management of the Society's affairs, has long been felt. Whether the change comes soon enough to resuscitate the Society remains to be seen. We wish Mr. Jennings success, but it will be no easy task to conciliate

those who are mainly interested in horticulture, and those who care simply for bands, promenades, and a playground for their children. The regeneration of the Society must depend on its being made national instead of local, and if it initiates and carries through work which can be recognised by the public as worthy of support, there is little doubt that support will be forthcoming. May wise counsels prevail.

— THE tenth quinquennial INTERNATIONAL HORTICULTURAL EXHIBITION at GHENT is fixed to open on March 31, and continue to April 7 next. The schedule is very full and complete, and comprises upwards of three hundred classes, in each of which two, and in most instances three, prizes are offered. The citizens of Ghent are adepts in the art of organising a first-class show, and the cordial and hospitable reception given to Englishmen at these gatherings is well known. The Van Houtte Memorial Prizes, to consist of two Silver Cups, offered by the English Committee for Stove and Greenhouse Flowering Plants, will be first competed for on this occasion.

— THE HORTICULTURAL CLUB has recently changed its home, and removed from Adelphi Terrace to new and much superior quarters in Arundel Street, Strand, under the same roof as the Temple Clb. Here it may be hoped it will meet with such support as will make it a horticultural power, should any public movement for the advancement of horticulture become necessary.

— THE NATIONAL ROSE SOCIETY'S SHOWS for 1878 are fixed to take place as follows:—The Metropolitan Show at the Crystal Palace, Sydenham, on Saturday, June 29; and the Provincial Show at Manchester, on Saturday, July 6.

— M. AUDOYNAUD, of Montpellier, after experimenting on POTASH MANURES FOR VINES, arrives at the conclusion that sulphate of potash and chloride of potassium have a marked influence on the development of the Vine, and nitrate of potash still more so, while carbonate of potash is less efficient; and that potash should enter into the composition of manures for the Vine, that which exists already in the soil not being usually in a fit condition to be readily absorbed. Hence the utility of wood-ashes as a dressing for Vine borders.

— THE SCREW-PINE SCALE (*Aspidiotus Pandani*) has recently been observed in our hot-houses as very persistently attacking plants of *Pandanus filiformis*. Signoret describes it as living exclusively on *Pandanus utilis*, but the above case shows that its predilection is generic, not specific. Moreover, it wanders a little from its special genus, being found at home on the Cinnamon tree in the same collection. It is a round, flat, blackish-brown scale, with a whitish umbo in the centre. The female under the scale is rounded, of a whitish-yellow colour, and the characteristic clusters of secretors (called *filières* by Signoret) on the terminal segment are four in number, each consisting of a very small number of openings. The isolated *filières* are peculiar long hairs, pointed at the extremity.

— AMONGST Mr. W. Paul's NEW ROSES, a fine H.P., named *May Quennell*, stands out

pre-eminent. It was raised by Mr. R. B. Postans, of Brentwood, and is certainly a grand Rose, of a brilliant magenta-carmine colour, large and full, with the petals most symmetrically disposed, and growing a little darker as it ages. It is in every respect A 1. *Red Dragon* is a strong-growing rich red-crimson, large, full, and bright, and being suitable for climbing and pillars, it will fill a wide sphere of garden usefulness. *Rosy Morn* is a delicate peach colour, richly shaded salmon-rose, remarkable for brightness, and is a lovely Rose, with the highest "points." These all have a robust constitution, and produce good foliage.

— **T**HE North-West American CLEMATIS PITCHERI has found its way into French gardens, whence it may soon be expected to arrive amongst us. It is a slender plant, with the leaf-lobes ovate-oblong, obtuse, and somewhat glaucous, and the flowers vase-shaped, scarlet, of moderate size, on long peduncles. It is quite hardy.

— **A** GOLDEN YEW SPORT has recently been noted in the gardens at Old Conna Hill, near Bray, the residence of P. Riall, Esq. These gardens are remarkable for the grand and beautifully trim yew hedges, which separate the kitchen garden from the flower ground, and also form the lofty, sheltering quadrangle which protects from the blast on all points the rockeries, on which are grown a choice out-door collection of British ferns. These yew hedges are 16 ft. or more high, plumb and smooth as a concrete wall, except in one spot, where very recently symptoms of gold-fever were noticed, and the shears being forbidden to touch it, the smooth surface was soon varied with a boss of golden yew.

— **T**HE beautiful EUCHARIS AMAZONICA is grown very extensively and in a very simple way by Mr. Denning. The mode of culture adopted is to plant it out, in quantity, in a well-heated pit, where it grows freely, and about Christmas yields an enormous crop of flowers. This is an easy way of providing a supply of Eucharis for Christmastide decorations.

— **T**HE glossy-leaved BERBERIS DARWINII is often seen used as a hedge plant in the Surrey nurseries, and an excellent shrub it is for the purpose. Mr. Penford, the gardener at Powerscourt, describes in the *Garden* a hedge of this Berberis 250 yards long, 4 ft. high, and 1½ ft. through, well furnished from bottom to top. In spring, it is studded with thousands of bright racemes of flowers, and in autumn its purple berries have a fine effect. A hedge of this Berberis will hold its own against all comers, and will be equally pleasing either in a large or small garden.

— **T**HE ground intended for a WILLOW PLANTATION should be well drained in the first instance, and laid off in 6-ft. ridges, with deep intervening furrows. Cuttings do much better than plants, and should be put in in February or March. The cuttings should be from 1 ft. to 15 in. long, and be inserted in a slanting direction about two-thirds of their length, at from 1 ft. to 2 ft. apart in the beds. Though fond of moisture, willows will not thrive in land which is water-logged.

— **A** VERY interesting TOMATO HYBRID has been raised by Mr. Davidson, at Highfield Park, Heckfield. The pollen-parent was Hathaway's Excelsior, the seed-parent the Red Currant (*Lycopersicum racemigerum*). The hybrid is of more robust habit than its mother, whilst the bunches of fruit are larger, and the fruit itself at least three times as large as that of the Currant. It is quite distinct, and is exceedingly ornamental.

— **T**HE CHRYSANTHEMUM MRS. GEORGE RUNDLE is the best and purest of the white-flowered sorts for yielding a supply of cut flowers, and the best-habited kind for pot-culture. Strong plants, full of buds, lifted with large balls of soil from the open ground at the end of October, and planted in a span-roof house, produce a profusion of most valuable flowers for cutting.

— **W**AVING casually observed the EFFECTS OF COAL ASHES ON TOMATOS to be, as I thought, something out of the common, increasing not so much the growth of the plants as the size, smoothness, and number of the fruit produced, a market-gardener of experience confirmed my suspicion, and last spring I adopted his directions, which were to throw out a wheelbarrow-load of earth where each plant was to stand, and then fill with half-soil and half-coal ashes, and therein set out the plants. I did so, and the result was quite surprising, the dozen plants thus treated bearing nearly double the fruit of others, and smoother and larger; but Tomato plants so set will, in case of drought, require water oftener, and more of it, than those growing in common soil. So writes a correspondent of the *Country Gentleman*.

— **A** NEW CUCUMBER, WALKER'S HERO, is highly spoken of as growing in the gardens at Muckross Abbey. Telegraph, Duke of Edinburgh, Marquis of Lorne, and Walker's Hero were sown at the same time (January 28), grown side by side in the same pit and in the same soil, and treated in every way alike. By the last week in February, or about five weeks from the time of sowing, a brace of handsome fruit was cut from Walker's Hero, not one of the others affording a cutting for a month or more later. It possesses all the points of a first-class cucumber—size, shape, tenderness, and a beautiful bloom; and further, it is a splendid cropper.

— **M**ANY of the DOUBLE-FLOWERED PELARGONIUMS of recent introduction possess the compact habit and free-flowering qualities of the best of the single varieties. One of the most free-blooming is the semi-double Wonderful, which is of the same habit and colour as Vesuvius, from which it is a sport; and one of the most useful is Madame Thibaut, a grand rose-pink. Dépôt Ancelon, deep rosy-purple, Littré, another rosy-purple, and Le Nord-Est, bright scarlet, are also fine. Candidissimum is said to be the best white.

— **O**NE of the finest of the pale-coloured hardy varieties of CLEMATIS is Otto Frübel, which last season bloomed splendidly with Mr. G. Jackman, in his nursery at Woking. The plant appears to be remarkable for vigour, and the flowers are of immense size and perfect in form,

the sepals being sufficiently broad to be well imbricated. The colour is a French-white, and therefore somewhat wanting in purity, but the fine qualities of the flower in other respects amply atone for this deficiency, and no one who plants it could possibly be disappointed if the plant thrives. It is by no means a novelty, being a Continental variety sent out some years since.

— **T**HE beautiful *HYACINTHUS CANDICANS* is yet but little known, and its extreme hardiness has been unsuspected. Seed sown in the summer of 1876 in the open ground germinated freely, and the little bulbs were left exposed to the severe frosts of the succeeding spring, and were found to be quite fresh, and throwing out roots in the month of March. This proves that the *H. candicans* is not only hardy, but more hardy than most of our spring bulbs.

— **T**HE Messrs. Ottolander, of Boskoop, have sent out a coloured figure of *CLEMATIS SIEBOLDIA*, described as a hybrid, raised at Boskoop, between *C. lanuginosa* and *C. patens*. The flowers are 8-sepaled, something over 7 in. across, of a deep purplish-mauve colour. It very closely resembles such English varieties as Princess of Wales, Robert Hanbury, and others of the same stamp.

— **I**T appears that *DRACÉNAS* are liable to catch the Cucumber disease, some plants growing in a house infested with the disease having had their roots attacked by minute thread-like worms, similar to, and probably identical with, the very minute vibrios usually found in diseased Melons and Cucumbers. This may serve as a hint not to plunge valuable plants into Cucumber beds.

— **A**CIRCULAR has been issued by S. Barlow, Esq., and the Rev. F. D. Horner, the honorary secretaries, calling a general meeting of the members of the NATIONAL AURICULA (northern section), ROYAL NATIONAL TULIP, and NATIONAL CARNATION and PICOTEE (northern section) SOCIETIES on February 5, at 2 p.m., at the old "Bull's Head," Lancaster, to arrange the dates of this year's exhibitions, and the schedules of prizes, and to consider the plan of judging, and other matters connected with the management of the above Societies.

— **A**NALYSIS has shown that APPLES contain a larger amount of phosphorus, or brain-food, than any other fruit or vegetable, and on this account they are very important to sedentary men who work with their brain rather than their muscles. They also contain the acids which are needed every day, especially for sedentary men, the action of whose liver is sluggish, to eliminate effete matters, which if retained in the system, produce inaction of the brain, and indeed, of the whole system, causing jaundice, sleepiness, scurvy, and troublesome diseases of the skin.

— **T**HE Arbutus-leaved Pear, *PYRUS ARBUTIFOLIA*, appears to be but little known, although it is one of the most beautiful of our autumn-tinted trees. A good specimen of it presents a gorgeous spectacle, the flame-coloured upper surfaces of the leaves being very brilliant.

Obituary.

— **S**EPTIMUS HOLMES GODSON, Esq., died at 14 Rutland Gate, on November 16, in his 79th year. He was one of the oldest Fellows of the Royal Horticultural Society, and sat for many years on the Council.

— **M**R. ROBERT FOULIS died at Fordel, Fifeshire, on December 21, in his 80th year. He was for a little over half a century gardener and forester at Fordel. In February, 1876, he was awarded the Neill Prize by the managers of the Royal Caledonian Society.

— **M**R. W. J. EGGLETON, head gardener to Lord Vernon, Sudbury Hall, Derby, died on December 22, at the early age of 33. He was highly respected by the gardeners in Staffordshire and Derbyshire, and was himself a very successful Grape and Peach grower.

— **S**AMUEL COOPER, Esq., of The Hollies, Timperley, Cheshire, died on December 24. He was a keen lover of all that was beautiful in Nature, and a most enthusiastic florist. He possessed an extensive collection of stage and alpine Auriculas, Tulips, and Pinks, and has exhibited at the exhibitions of the National Societies for many years. He frequently related at the social *réunions* of the florists the delight with which he carried home his first prize—a saucepan—from a Pink show. Mr. Cooper was a liberal supporter of all the Northern floral societies.

— **T**HE REV. JOHN FOUNTAINE died at Southacre Rectory, Norfolk, on December 28, in his 63rd year. He was an ardent horticulturist, especially, enthusiastic in the orchard-house culture of fruit-trees, and was the author of a pamphlet, *The Improved Method of Growing Fruit upon the Orchard-House Principle*, and the inventor of the orchard-house railway, with the design of which visitors to Chiswick are familiar.

— **M**R. THOMAS MOFFATT died on January 4, in his 91st year. He was gardener to the late Viscount Sydney, at Froginal, for a period of twenty years, and then went to Clumber Gardens, where he served three Dukes of Newcastle. He was the oldest Fellow of the Royal Horticultural Society, and was appointed by that Society as one of a committee of three to select a site for the new garden about to be formed, when Chiswick was selected as the most eligible.

— **M**R. ANDREW MURRAY, F.L.S., died at Bedford Gardens, Kensington, on January 10, in his 66th year. As an entomologist and a botanist —conifers being his specialty—Mr. Murray has long been known as an indefatigable worker, while to horticulturists he was well known from his long connection, official and otherwise, with the Royal Horticultural Society. His stores of information were very varied, his reasoning original, and characterised often by much quaint humour in the expression. Economic entomology occupied of late much of his attention, and the arrangement of the collections at South Kensington and Bethnal Green Museums was his work.



W H. Fitzgerald del

G. Severeyns, Chromolith Brussels

Apple: Jolly Beggar.

THE JOLLY BEGGAR APPLE.

[PLATE 462.]

 HIS excellent early kitchen Apple was sent to us some time since, with a very high character for its quality and good bearing properties, by Mr. Rivers, of Sawbridgeworth, and Mr. Fitch has very accurately represented the samples of it then received. It is, as our figure shows, a fruit of full medium size, roundish, and somewhat ribbed near the crown, pale yellow, with a tint of deeper yellow on the more exposed side. The eye is large and open, and set in a shallow basin formed by the ribs already alluded to. The stalk is inserted in a deepish hollow, and is half an inch

or more in length. The flesh is tender and juicy in texture, white, sweet, with a brisk pleasant flavour. Dr. Hogg, in his *Fruit Manual*, identifies it with a variety called Lord Grosvenor, and notes that it is a first-rate cooking-apple, in use from August till October (Mr. Rivers says, October to December). "The great merit of this variety," he remarks, "is its great fertility, the small bush trees producing an abundance of fine yellow fruit. The tree bears very early, and is one of the most useful for garden-culture." Other authorities speak of it as a prodigious bearer.—T. MOORE.

POINSETTIAS, SINGLE AND DOUBLE.

 MONGST the plants employed for the ornamentation of our houses during the mid-winter months, the *Poinsettia* stands pre-eminent, its gorgeous brilliancy of colour being specially captivating and attractive, whilst it possesses peculiar lasting qualities as a decorative plant. A further point, which adds greatly to its popularity, consists in its being amenable to general treatment. Indeed it is of such easy culture, that even those who have but limited means at command may enjoy its dazzling gleams of colour. Doubtless, with a better understood system of management, we are now enabled to produce far more satisfactory results than was wont to be the case; and in the place of the gaunt, straggling, ungainly-looking plants we were formerly in the habit of seeing, we have them now compact and sturdy, with verdant foliage resting on the pots, and affording a pleasing contrast to the flaming bracts. So simple is the necessary treatment, that a few brief remarks only will be necessary, to place before those who may be unacquainted therewith, the treatment which is most likely to insure the greatest amount of satisfaction.

Premising that the plants are at rest and dried off, they are best kept in a temperature of about 50°, and may be started into growth so as to suit the time and various purposes for which they are required. The average season of flowering is from November to March, and presuming there is accommodation to grow

them in quantity, they may be started in successional batches from June to the end of August, a few plants being introduced at a time into a brisk, humid atmosphere, where they will quickly start into growth. The *Poinsettia* is easily propagated in a variety of ways, such as by cuttings of the old wood or by single eyes, precisely as in the case of Vines; but by far the handiest and best way of increasing it is by cuttings of the young shoots, taken off when from two to three inches in length. These should be cut clean off with a heel, and be dibbled singly into small pots, using a light sandy compost, and plunging them in a close humid frame or propagating-house, with a bottom-heat of about 85°, where they must be shaded and kept sufficiently moist, as it is essential at this stage that they retain the tender foliage. They will quickly emit roots, and care will then be requisite that they are gradually inured to withstand full exposure, as from this stage onwards it is of primary importance that they should be fully exposed to every ray of light, and be kept close to the glass.

Doubtless when such is available, the very best place in which to grow *Poinsettias* throughout the season is a low span-roofed house or pit, where they can have an abundance of light and air; and it is well known that in the early stages of growth the fostering influence of bottom-heat to the roots is of the greatest advantage, as well as during

the time when the plants are being pushed forward in autumn, when the geniality of an advanced ground temperature adds so materially to the development of the crest of bracts. At the same time, such stimulating influence should be used in moderation, as it is most objectionable to engender an enfeebled constitution, which would be less likely to endure the exposure to which in all likelihood they would afterwards be subjected. As the bracts fully expand, the temperature and moisture should be gradually reduced, the former to 50° or so; and if kept moderately dry at the root, they will stand for a length of time in the conservatory or a dry room. In fact, for every decorative purpose they are so lasting and effective as to merit every attention in preparation; and when well hardened off, I have known them to stand for weeks in a minimum of 45° , when kept from draughts and cold currents of air.

The soil I find best suited for the *Poinsettia* is a mixture of light rich turf-loam, leaf-mould, and rotten manure, in about equal parts. If the loam is at all adhesive, the compost would be improved by consisting of about equal parts of loam and peat, with thoroughly decayed cow-dung, adding sand, charcoal, and bone-dust, so as to insure porosity, as the plants dislike an adhesive medium in which to root. Liquid manure is only necessary or at all desirable during the later stages of growth, when, if applied in moderation, it will encourage a more vigorous development of bracts. As *Poinsettias* are required for a variety of purposes of various heights and sizes, so as to suit the different positions they are required to occupy; the earliest-rooted plants must be grown on, either as single plants, or grouped five or more in a pot, according to the size required. I recommend the one shift from the cutting pot at once into that in which they are to flower, as there is no further check to the roots. Tall plants are very effective as 'starers,' for giving relief to groups of foliage, and overtopping the plants in general arrangements upon conservatory benches, they form grand objects. For this particular purpose, I find the one-year-old plants to answer best; if cut freely back to two or three eyes, and placed in heat to break, they quickly make shoots an inch in length, when they should be shaken clear of the old soil,

trimming any obtruding roots, and then be potted into pots according to the reduced state of the roots. If plunged in bottom-heat, they make rapid progress, and with a final shift soon form splendid shoots, carrying bracts of astonishing size, and for such purposes as above indicated they are glorious subjects.

The method formerly adopted to obtain dwarf plants, and one which is now frequently resorted to with great success, obtaining heads of colour 12 in. in diameter, upon plants 6 in. in height in small pots, was to plant out the old plants in a pit early in spring, and encourage vigorous growth. The heads taken off during August, and placed in a brisk, close frame, quickly root, and if kept close to the glass, afterwards make but little growth, and are so very serviceable for grouping in trays with other subjects, as to be well worth growing in quantity. However, the method which most fittingly commends itself for the production of dwarf plants, and which is the least trouble, is to confine the late-struck plants, which are started in July and August, to the 60-pots in which the cuttings are rooted, though to insure perfect success with *Poinsettias* in such small pots, a little nice attention is necessary, as they must not receive any check, and the plants must be kept close to the glass, freely syringed overhead, and liberally supplied with manure-water. These convenient miniature plants produce glorious heads of bracts, and form charming subjects for decoration.

To be perfectly successful in the cultivation of the *Poinsettia*, a strong and vigorous growth must, as far as possible, be uninterruptedly secured throughout the season of active growth; they must have full exposure to every ray of sun, without the slightest shade in any form after they are removed from the cutting pot, placing them as close to the glass as possible, and giving an abundance of air; this cannot well be overdone during July, August, and September. In fact, with plants that are fully and early established, I have often removed the lights entirely during mild weather with the best results. But this must be done with caution. When grown by themselves, *Poinsettias* are more under control in every way than when grown in the ordinary stove with a mixed collection. In the latter case, they are very apt to get drawn and weakened. When

a pit is not available, a common frame will grow them admirably during the summer months.

As to varieties, they are but few. The old typical form *Poinsettia pulcherrima* has long been a most popular useful variety for general purposes. The new *P. p. plenissima* is a very splendid sort, producing magnificent heads of a deep vermillion colour, and is very useful in succession to the typical variety, being quite a fortnight later in flowering, with the additional advantage of standing twice the length of time in condition. Notwithstanding the discordance of opinion as to the merits of this plant, I hail it as a welcome addition to our plant stores for winter blooming. The variety named *P. p. major* is a pleasing sort, with a dense, compact habit, holding its ample foliage longer than the old kind, and producing freely fine heads of coloured leaves of a rosy hue. This sort is well worthy of more attention for decorative purposes. The white variety, *P. p. alba*, is also pleasing for its lasting properties, as it stands long in condition, and affords a good contrast.—GEO. WESTLAND, *Witley Court Gardens*.

AZALEA ROLLISSONI.

 HIS name has been given to a dwarfed habited evergreen shrub recently imported from the mountains of Japan by the Messrs. Rollisson, and which, on account of its profusion of elegant blossoms, will be a remarkably useful plant for small decorative work. The plants, moreover, may probably prove to be hardy, in which case it will be a valuable addition to the alpine rockery, associating well with *Rhododendron ferrugineum*. It is of very dwarf and compact growth, having spreading branches, which bear small lance-shaped or sub-spathulate strigosely hairy leaves. The flowers are small, about $1\frac{1}{2}$ in. across, symmetrically double, and of a light salmon-red colour, very freely produced, and of quite an ornamental character. It may possible prove to be of a distinct specific type from *A. indica*.

The plant first appeared in public at the Royal Botanic Society's Exhibition last summer, and was certificated as a promising subject for small decorative plants and for market purposes. It is of much the same habit as a set of dwarf-growing Azaleas, raised by Mr. Carmichael—

crosses, we believe, with *A. amœna*—and of which some half-dozen very pretty and useful



AZALEA ROLLISSONI.

varieties are about to be sent out by Mr. Williams, of Holloway.—T. MOORE.

DESTRUCTION OF LAWNS.

IT may not be out of place, at this season of the year, when so many renovations and improvements are being pushed forward, to hint to the inexperienced the evil—a growing one, it is to be feared—of cutting up lawns into flower-beds, or planting borders and groups of shrubs at random, under the impression that this is improving the garden. One may have a desire to increase the apparent extent of the place, and to show as much as possible the beauties of the surrounding country, provided there is nothing opened up that can offend the eye, or be otherwise objectionable; but nothing can be more strongly opposed to good-taste than cutting up a green-sward, and leaving a number of bare spaces, even although they should be in geometrical form. Let there be a flower-garden, by all means, but only in its proper position. I lately visited a large place of some note, and saw that nature only had been assisted in the first instance, when the beautiful grounds had been laid out. Beautiful glades running into the park and plantations beyond are some of the telling features, but in the open lawn a large conservatory has been set down, which obstructs the view and changes the whole character of the scene. What is much worse, a number of large circles are cut out, and piled up with earth till they form pyramids; and standing bare as they do, and moreover, being seen from nearly every point of the

grounds, they have a hideous appearance. These unnatural-looking intruders might be slightly improved by planting them with shrubs during the winter months, but it would be much better to turf over the space after levelling them down.

I could mention a number of gardens which have of late years been deformed in a similar manner, by introducing flower-beds, small grotesque basins of water, and piles of stones and roots in objectionable corners, showing that persons devoid of taste and almost of reason had been wasting time and means in destroying what might otherwise be beautiful. How many splendid views and striking objects are shut out by nonsensical planting and "rockeries," as they are called! We yet seem to be much in the dark regarding what real landscape gardening means, and what real garden beauty consists of. If it is true, as we were lately told by a great nurseryman, that one could count all the landscape gardeners in Britain on his fingers, and then not take up the whole ten, we have little to boast of.

Of course, one cannot associate the belting of parks all round, shutting out all that is beautiful, with landscape gardening; neither do we class those persons as "artists" or landscape gardeners who cut up every available space into geometrical shapes for flowers or shrubs. Abundance of advice is written to meet the wants of the veriest novice in a cultural sense, but a proper course of instruction for educating young horticulturists in a sound theory of landscape work is sadly wanting. Touches of systematic and skilful planting are given occasionally, but it is in very scanty proportion to the wants of those interested in the matter. It is pleasing to read of the work which the Scottish Horticultural Association is doing, and of the prize offered to young gardeners for the best original design for a Flower garden. I hope to see more successfully taken in hand that most noble branch of all gardening, which has such names as Brown, Marnock, and a few others well known, associated with it, viz., Landscape Gardening.—M. TEMPLE, *Impney Hall*.

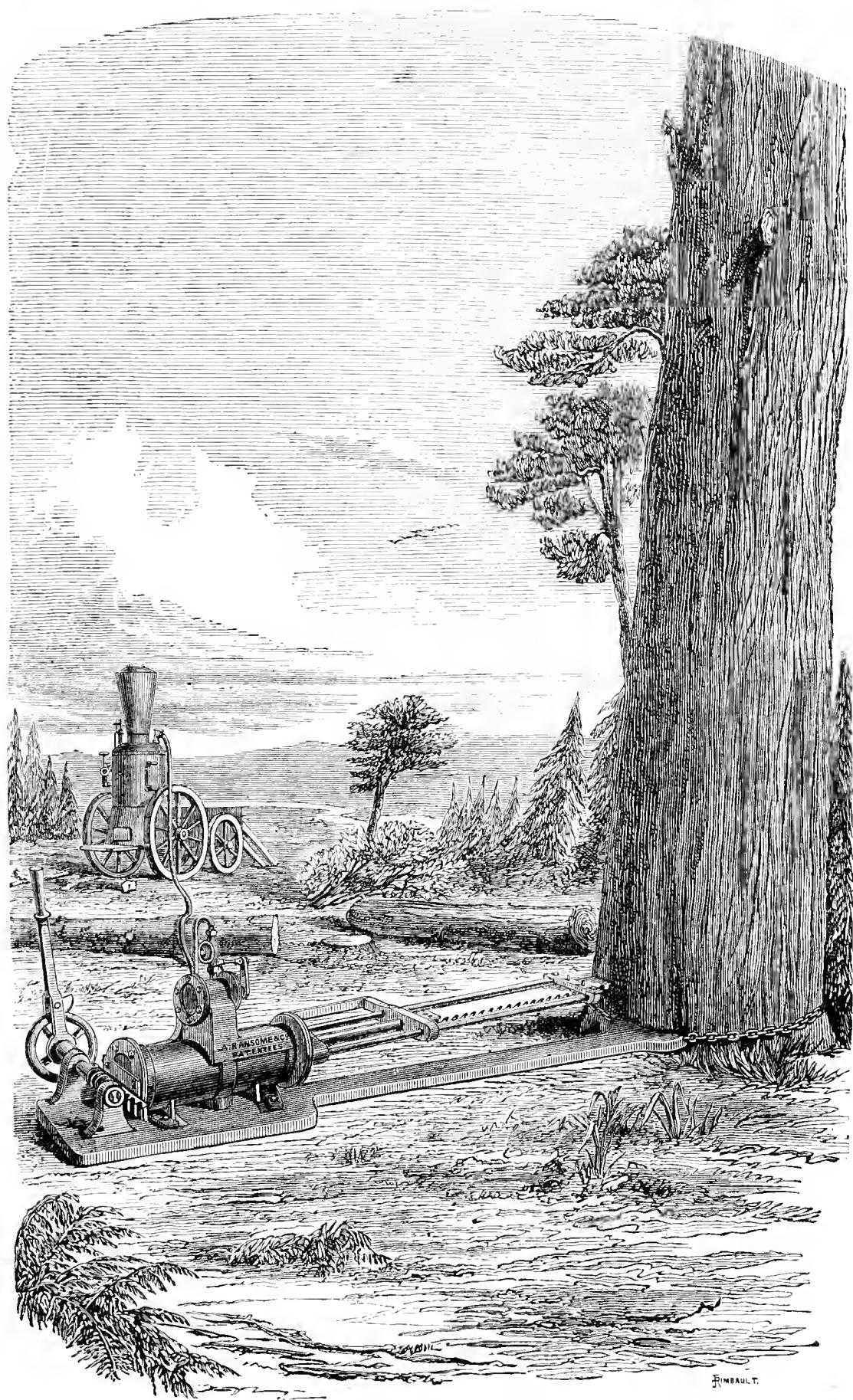
RANSOME'S TREE-FELLER.

FOR some time past, the Messrs. A. Ransome and Co., Engineers, of Stanley Works, Chelsea, have been experiment-

ing in the construction of a steam-sawing machine for the felling of trees, and they have now brought it to such a degree of completeness that, as announced in the daily papers, a public trial, to which engineers, landed proprietors, and other interested persons were invited, took place on the 11th ult., on the Roupell Park Estate, with very satisfactory results.

The machine, which weighs between 3 and 4 cwt., consists of a steam cylinder of about 4 in. diameter, having a long stroke, attached to a light cast-iron bed-plate, upon which it is so arranged as to pivot on its centre, this motion being worked by a hand-wheel turning a worm, which gears into a toothed quadrant, cast on the back of the cylinder, and its range being sufficient to enable the saw to pass through the largest trees ordinarily met with without moving the bed-plate. The saw is fixed to the end of the piston-rod, which is made to travel in a true line when at work, by guides, and the teeth of the saw are of such a form as to cut only during the inward or return stroke. By this device it is found that a saw up to 9 ft. or 10 ft. in length can be worked without any straining apparatus or guide, as its own cut is sufficient to guide the saw in a straight line through the tree when once entered. As the teeth offer no resistance to the outward stroke, all possibility of the saw buckling is obviated. A strong wrought-iron strut is attached to the bed-plate, and this is furnished with two fangs, which are made to bite into the butt of the tree, by a chain passed round the latter just below the saw-cut and tightened by a powerful screw.

The necessary steam is supplied at a pressure of 40 lb. to 50 lb. from a 3 or 4 horse-power portable boiler, through a strong flexible steam-pipe. As this pipe may be of considerable length, the boiler can remain stationary until the machine has cut down all the trees within a radius determined by the length of the pipe. Four men are required to work each tree-feller, one to guide the machine, one to drive wedges into the cut to prevent the tree from pinching the saw, and to control the direction in which it falls; one to stoke the boiler, and the fourth to clear away underwood from the tree next to be operated on. Machines are made for felling trees up to 6 ft.,



RANSOME'S STEAM TREE-FELLER.

FIRMBALST.

and there is no reason why they should not be applicable to the largest timber that grows.

At the trial above referred to, an elm 33 in. in diameter was cut down in $3\frac{1}{2}$ minutes; a larger tree, 36 in. in diameter, took 9 minutes, owing to the saw not being properly ground; and two others of similar dimensions occupied about the same time, the four having taken rather less than an hour.

The working expenses, exclusive of the first cost of the machine, which is but small, and of the boiler, run to about 25s. or 30s. per day; and Mr. Ransome states that with a gang of four men who have had a few days' practice "the machine will readily fell, as an ordinary day's work, from 50 to 60 trees, averaging 30 in. in diameter at the butt." Moreover, "as the tree-feller saws the trees off at the ground-level, it saves, in every tree of 3 ft. diameter, several cubic feet of the best part of the timber, which would be cut into chips if felled by the axe." Such a machine would soon save its cost, on an estate where much tree-felling has to be done.

THE 'A BEC' PEACH.

THE varieties of new Peaches of American and English origin have become so very numerous, that amateurs and others who cannot test them as they appear, and yet wish to secure a selection of the very best, will do well to add this fine early melting variety, of which you lately published a figure, to their stock. The tree is hardy, a good grower, very prolific, and one of the finest and best for forcing, as it ripens about a fortnight later than the Early Grosse Mignonne. Flowers large; fruit equal in size, colour, and quality to Royal George, which it resembles, except in point of earliness and freedom from mildew. I have grown it in an early house, also as a pot-tree, and on walls, since 1860, and although I have tested many of the new varieties of more recent introduction, I still look upon this fine Peach as one of the best, either for general use or exhibition.

It will probably be useful to many fruit-growers, both amateur and professional, if I here add a list of eighteen of the very best early, mid-season, and late varieties:—

EARLY VARIETIES.

Early Grosso Mignonne.	Dr. Hogg.
Hale's Early.	Grosso Mignonne.
A Bec.	Crimson Galande.

MID-SEASON VARIETIES.

Alexandra Noblesse.	Royal George.
Dymond.	Violette Hâtive.
Noblesso.	Bellegarde.

LATE VARIETIES.

Belle Baucé.	Stirling Castle.
Barrington.	Neetarino Peach.
Prince of Wales.	Walburton Admirable.

Crawford's Early is large, handsome, fine for exhibition, and decidedly the best of the yellow-fleshed section.—W. COLEMAN, *Eastnor*.

THE FUCHSIA AS A COOL GREENHOUSE CLIMBER.

I HAVE planted out here in a cool greenhouse some new varieties of Hybrid Fuchsias, raised by E. J. Lowe, Esq., Highfield House, near Nottingham, and find by their rapid growth and free-flowering habits, that they will make excellent climbers when trained on pillars. I have in the same house a plant of the old Fuchsia Rose of Castille, 14 ft. in height, trained on a pillar, and during the summer months when in flower it affords one of the grandest floral sights which one can imagine in a Fuchsia. Mr. Lowe's seedlings are named *Columbine*, *Sieva*, *Anatu*, *Adria*, *Concordia*, *Inez*, *Dragontina*, *Phoebe*, *Violetta*, *Odin*, and *Robin Hood*. Of the above sorts, I have selected *Odin*, *Adria*, *Violetta*, and *Columbine*, as being the strongest growers, and evidently having some of the strain of *F. fulgens* in them, from the shape and size of the flowers.

The hardy *Fuchsia Riccartoni*, when planted out in the open air in a suitable soil, and kept well watered in dry, hot summers, is, when in flower, one of the most showy of all shrubs. In the island of Arran, Bute, on the south coast of Ireland, and in the Isle of Wight, this variety forms immense bushes, or rather little trees, and is not liable to be cut down in the winter.

To see, however, the tender varieties of Fuchsias in all their beauty, we must train them as climbers, with plenty of room for them to get to a good size. When grown in pots for exhibition purposes, it is only a few cultivators that bring out collections of well-grown plants, owing to their rambling habits, unless, indeed, they are well stopped when young.—WILLIAM TILLERY, *Welbeck*.

THE CULTURE OF WALL FRUITS.

CHAPTER XIII.—THE APRICOT.

ON comparison with other kinds of fruit-trees—the Peach, for example—the Apricot is, as a general rule, a much less tractable subject. There are some few favoured localities where the soil and subsoil are so well suited to its requirements that the labour involved in its cultivation is reduced to a minimum, owing to the very fruitful nature of the wood produced by trees growing in such soils and subsoils. These, however, are exceptions, and not the rule, and in most localities it will be found that the Apricot will require very careful management, both as regards roots and branches, in the several stages of its growth, in order to obtain an adequate amount of success in the production of fruit.

The cultural manipulations of both Peach and Apricot have many requirements common to each other, but some of them differ in the degree of their applicability to each. These differences I hope to be able to point out in the course of my remarks. In the first place, I am inclined to the belief that the Apricot is a more tender tree in its constitution than the Peach, and more susceptible of injury to the fruit in the early stages of growth in the spring, principally owing to its habit of flowering so much earlier, thereby exposing it, after being well set, to the rigours of the severe frosts to which we are so often subjected at the end of April and beginning of May. This peculiarity of the tree necessitates an increased amount of care, both in the matter of protection and as an influencing element in the case, in the endeavour to secure a fair amount of well-ripened wood in the autumn. Indeed, this latter may well be considered as one of the most important points to which the cultivator's attention should be especially directed.

Now as this ripening of the wood is in a very great measure dependent on the nature of the soil and subsoil, and where these are not naturally favourable, on the consequent formation of borders adapted to their requirements, it will perhaps be best to commence by indicating some of the essential points which it is necessary should be taken into consideration. The first of these is an absolutely perfect system of drainage. No fruit-tree is more impatient of what we used to call a wet bottom,

but which, in these improving days, we must refer to as the presence of stagnant water amongst the roots; although, let me observe by way of parenthesis, that with perfect drainage, no tree will bear with advantage a greater amount of water during the growing season and previous to the fruit ripening, than the Apricot, but it must percolate away freely, though not necessarily too quickly. It may, then, be gathered from the tenour of the preceding remarks that the care which it will be requisite to bestow upon the formation of the borders in the first instance will very much depend upon the nature of the subsoil. Some subsoils are naturally of so porous a texture that drainage is not necessary, and to break up the bottom, and form the border upon it will be quite sufficient, as these are the kind of subsoils on which the Apricot flourishes best; but when the subsoil is of a very stiff character and retentive of moisture, too much care cannot be bestowed upon the formation of the bottom of the borders.

The texture of the compost which is available for the borders should regulate the depth, as provided the drainage is sufficient, the Apricot is not very particular as to the materials of which it is composed; so that if the staple of the compost is a strong holding loam, two feet of depth will be ample, but with a very light and porous soil through which water passes freely, a greater depth of compost will be beneficial.

The necessary depth being settled, there must be below it at least one foot of rubble. Many things are available for this purpose, and amongst others the clinkers from furnaces form very durable drainage; broken stones may likewise be used, but from choice I greatly prefer old briks, broken up to about the same size as the stones used for macadamizing roads. The bottom of the border should slope outwards from the wall sufficiently to carry the water off to the front, where there should be an additional depth of a foot taken out, and also filled with rubble. This latter must have an outlet drain, and if that has to be carried any distance, it is best to lay down a four-inch drain-pipe, and cover that also with rubble about a foot in depth. This

kind of drain in stiff land will last for generations. If a convenient outlet is very difficult of attainment, it may suffice to dig a well, say six feet wide and three deep, below the bottom of the front drain, and fill it up with clinkers and rubble. Before wheeling in the compost, if it is possible, let the rubble be covered with some fresh-cut sods of turf, fibry loam. Whatever the staple of the compost may consist of, there should be an admixture of broken bones, lumps of charcoal, a sprinkling of salt, and a fair addition of broken chalk, the latter being the most important.—JOHN COX, *Redleaf*.

IN MEMORY OF
MR. SAMUEL COOPER

[Who Died on December 24, aged 62 years, and was Interred at Bowdon, December 27, 1877.]

COME, mourn with me, if thou, indeed, art one
Who loves the true nobility of worth!
Mourn for a Loving Heart for ever gone—
As true a Friend as ever lived on earth.
One of large Heart and intellect refined,
Whose taste was visible wher'er he moved;
One with a painter's grace and poet's mind,
Who lived surrounded by the gifts he loved.
Yes, mourn with me!—shall *goodness* pass away,
And we forget the virtue Time reveres?
Can we behold that form—now breathless clay—
Declare its worth, and yet deny our tears?
No! blest are tears when from the heart they spring;
Nor unobserved by Heaven they fall to Earth.
The noblest tribute to the grave we bring,
Is manly sorrow for departed worth!
Yet, oh! not dead—though dark the shadow lowers,
He's living still where life is perfect bliss.
The grief, the loss, the bitterness is ours!
But *his* the gain—the immortal vantage *his*!
Not dead! The sun may from the west decay;
We know its absence is but for a time;
The soul who's setting we lament to-day
Shall find a heavenly morn to rise sublime!
Whilst standing by his grave, midst snow and
showers,
We gently lay him in the silent tomb;
Some loving hearts had not forgot the flowers
He loved to plant and tend, and see them bloom.
No! though we mourn his loss as one of mind,
To teach and benefit his fellow-men,
We lift our prayers to Heaven and wait resigned,
Knowing there comes a day to meet again.
Peace to his grave! be ever blest his soul!
Deep in our hearts his memory we will hoard,
For never did the bell of mourning toll
For one more loved, more honoured, or deplored.

Gardener's Magazine.

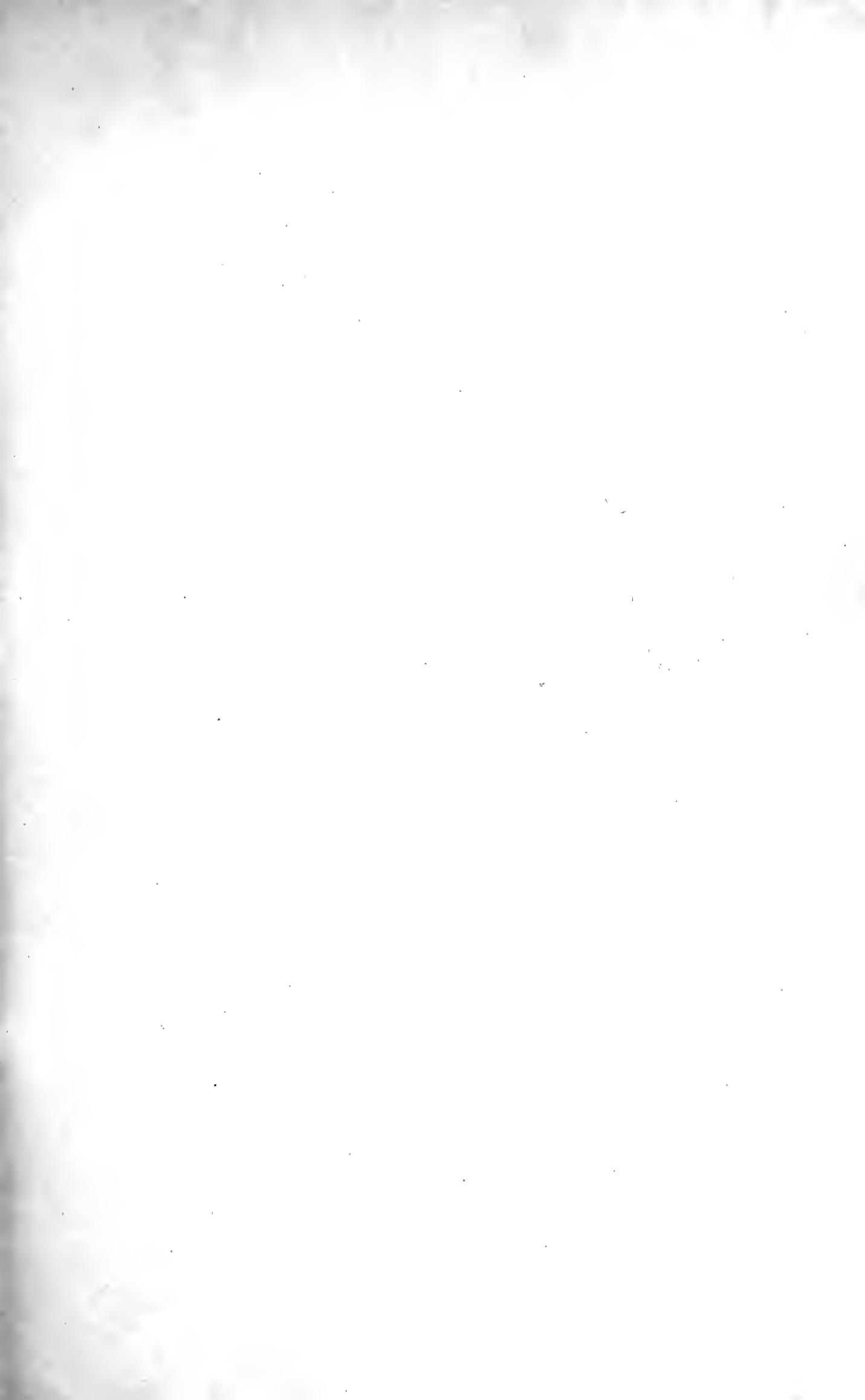
TABLE DECORATION—A HINT.

HERE there is a great demand for cut flowers, especially for the purpose of table decoration, any contrivance that will serve to lessen the quantity required at this time of the year will be found to be a great boon; and those who throughout the winter months have large demands made upon them for the supply of the table and other decorations, besides button-holes and a few choice sprays for the ladies every night, will know how to appreciate such help.

We have found the common Club-moss *Lycopodium denticulatum* [more correctly called *Selaginella Kraussiana*] very useful for the table. We use it mostly on the breakfast-table, mixed with a few flowers, when desirable. We had a lot of 3-in. pots made of tin in the ordinary way, and painted them green, of a tint as nearly as possible like that of the Lycopod, which is planted in them, and if well attended to, soon makes nice tufts, falling over the sides of the tins, and almost covering them, which it is intended it should do. While the plants are growing they must not be allowed to stand at all close together, otherwise they do not become so well or so equally furnished, which must be avoided, for when on the table the whole plant is fully exposed to view.

When required for use, well-grown fresh plants are selected, and sprinkled very lightly with water, the drops of which are shaken off, so that none are left to fall on the cloth. They are then set into small glass saucers, which, if the plants have done well, should be also covered by them. Thus employed, it is astonishing what a fresh and cheerful effect they have, and how by their aid a few cut flowers can be made to go a long way.

We intend to obtain some common 6-in. saucers, and plant the Lycopod in them, and use them in a similar way for large tables, especially for the breakfast-table, where they are most appreciated. With a dozen of these and the same number of small glasses, each provided with only one flower (which, however, must be good), and a piece of Maiden-hair fern, a very nice and pleasing display can be had—better, we think here, than where so many grand flowers are introduced.—A. H., *Thoresby*.





SPIREA PALMATA ELEGANS. (ED. PYNAERT.)

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SPIRÆA PALMATA ELEGANS.

[PLATE 463.]

 HIS new *Spiraea* is a grand acquisition for our collections of hardy plants, one to which, in fact, it is not possible for the illustration to do full justice, since the representation of its light and elegant inflorescence, and the chaste effect of its crimson stamens and white petals, is beyond the art of the painter.

M. Ed. Pynaert, of Ghent, believes that there is a great future before this plant, which is described as a hybrid between two parents, which both occupy an eminent position in the horticultural world, namely, *Spiraea palmata* and *Astilbe japonica*; and that it will be propagated and cultivated extensively for the ornamentation of greenhouses and apartments as a forced plant. From this point of view, the new *Spiraea* is superior to the original *S. palmata*, since it is said to bear a high temperature better than this latter, whose flowering sometimes miscarries when it is urged on too rapidly. Whether or not this novelty is really a hybrid, as is supposed, or only a seedling variation of *S. palmata*, as seems possible, it will be recognised as a hardy herbaceous plant of great and delicate beauty, and one which is

likely to be freely grown for market and for decorative purposes. We are therefore extremely happy to be the medium of introducing it to British cultivators.

The novelty now figured most nearly resembles *Spiraea palmata* in its foliage, but its inflorescence is of an intermediate character, and more branched than that of its mother, which is terminal. The individual flowers have pure white petals, and in their centre a tuft of red stamens, which, by and by, spread out over the petals, these flowers being crowded upon the branches of the panicles. A peculiar and distinctive character is found in the increased number of leaflets in the foliage, which are twice as many as those of *S. palmata* itself.

It is a vigorous plant, attains 2 ft. or more in height, and is perfectly hardy, growing freely in any reasonably good garden soil and eligible situation, and propagating easily, so that it may be expected, says M. Pynaert, "promptly to make the tour of the world." It is certainly a very fine subject for decoration, and a welcome addition to our hardy flower-gardens.—T. MOORE.

THE AURICULA.

CHAPTER XV.—DESCRIPTIVE NOTES OF SOME LEADING VARIETIES.

 ETWEEN the months of February and April, both inclusive, it is hardly possible that the florist who loves Auriculas can read, or talk, or think of his favourites too much, or find in all the time which he can give them, one dull, laborious, unrewarded hour.

There is never any floricultural hard labour in the cultivation of the Auricula, and it is well that that which is the heaviest in a round of treatment not irksome, though precise, occurs at a time when the plant is not at the most bewitching period of its growth. For all through spring, from the first snowdrop to the earliest blush of apple-blossom, it is hard to do anything more with Auriculas than helplessly admire them. How many a visit that we pay them, ends in little more than an all-absorbing look-round among the plants! How often the watering-can hangs in the forgetful hand by

the slenderest hold, that may even incontinently relax! And how often is the note-book closed, as if it were superfluous to write of so much beauty to its very face, and unmindful, in the blissful moments of possession, of what value will these notes be when absence comes!

Still it is no labour lost to work sometimes with leisure hand, but active eye. No mischief should then lurk undetected; while the knowledge gained of the habits of a plant, and the identity of its often narrowly-distinguished varieties, is always very useful. It is pleasant to be able to visit a friend's collection of Auriculas at any time, and "spot" him all his known varieties without any slavish obligation of reference to his labels, though probably for the sake both of brevity and caution, these will be in cypher; while if one unhappily suspects having to deal with some unholy, ill-favoured relic of the dark ages of florist depravity and

deception, it would be well that the eye could correct a false tongue, and that when you ask for a particular plant you can see that you get it.

In giving brief outlines of the habit and character of some of our best Auriculas, I wish to protect both our readers and myself, as did the Rev. G. Jeans, when undertaking, some twenty years ago, a similar work on the Auriculas of his day. Mr. Jeans, whose powers of observation were most keen and accurate, had several of his descriptions returned to him as misfits, variously incorrect; and he had equally to discard the amendments, as disagreeing with the evidence of his own experience. The differences mainly consisted in shades of ground-colours and degrees of constitutional vigour; variations which changes in soil and situation seem ever able to effect in a plant of such sensitive temperament as the Auricula.

There is some compensation, if not consolation, to the unfortunately situated, in the fact that no one grower of Auriculas is able to grow every variety better than anybody else. We all have our strong points and our weak points. On a florist visit to (for example) Halifax, I should say to myself, "Now for a sight of 'Colonel Taylor' in all his greatness," while at the same time wondering if I shall find my patient friend with his struggling bit of 'Freedom' yet alive.

Pure air and pure light are so much to the Auricula, that with these advantages most of the sorts naturally do well under proper care. Such is my experience here, but for all that I cannot yet grow George Levick as it grows with Mr. Simonite in his most dismal town, where—to borrow a conceit from Charles Dickens—the smuts come down like large snow-flakes gone into mourning for the death of the sun! Neither can I do Imperator as it has been done by growers in abominably besmoked localities in Lancashire. On the other hand, are Smiling Beauty and Page's Champion, that flourish here, but refuse to thrive in some exceedingly foul atmospheres, as a glowing example of which, our Vulcanic Sheffield will, of course, pleasantly suggest itself.

As a preface to the Notes which follow, I have only to say that as many now take an interest, old or new, in the Auricula, I am very willing to add anything I can that may

be of vital interest to those who grow, or wish to grow, Auriculas.

GREEN EDGES.

COLONEL TAYLOR.—Plant of free and handsome habit. Foliage rich green, broad, strongly veined, roughly serrated, with edge incurved when young. Truss large, carried up with such a round of guard-leaves as to be a distinctive mark of the variety. Pip of fair size and good substance, can be round and flat, but often seen with petals pointed; tube good in form, size, and colour, which is a clear yellow that lasts well. Paste not always dense enough, and apt to run thin towards its outer edge, giving the flower a cloudy look, but when in good order, a pure white, dense, broad, and circular. Ground-colour pure black, fading with age to a violet tint, of good breadth, and boldly laid on. Edge a delicious, magnificent green, exquisitely pure, vivid, and enduring—one of the very best of greens, and occupying its fair proportion on the pip.

BOOTH'S FREEDOM.—A variety not plentiful now in any hands, and one that seems very impatient of any neglect or wrong treatment. No one would suppose from healthy plants of it that it had a delicate constitution, but it has been so long and often seen in an emaciated condition, that it may well have a name for being delicate. After severe struggles, it has come round with me to be one of the best growers I have, and has kept itself up. Plant when in health is of bold habit. Foliage glossy green, moderately abundant, large and broadly pear-shaped, with edges irregularly creased and serrated. Truss with and without guard-leaf, and always disappointingly small; a very strong plant, giving but a lean-looking head of 6 to 8 pips, carried on a stem that proves to be too long. The buds in their infancy are very peculiar, being merely a few many-pointed green stars clustered together. Pip medium size; at its best, fairly circular, but often angular, of good substance and flat. Tube a good yellow, round, and closed by the anthers meeting towards the centre. Paste bright, pure, and dense, but sadly angular, especially if the petals are so too. Ground-colour a superb velvety jet-black, that never fails; sometimes too broad, but always of richest texture, giving the flower a high finish, and finely defined against the dark-green edge and bright white paste. Edge a deep pure green, the darkest shade of any of the greens, and of unsurpassed beauty, though sometimes not broad enough in proportion to ground-colour.

PRINCE OF GREENS.—Plant one of the handsomest of the green-leaved Auriculas, and of capital constitution. Foliage very abundant, broad, curly, roughly-toothed, of a polished smooth bright green, not veined. Truss very

large, sometimes from 25 to 35 pips; a great contrast to Freedom. The stem carries a strap-shaped guard-leaf, of form very distinct. The pip is very circular and very flat, and of medium size or under, in consequence of which the abundant buds will require timely and judicious thinning. The plant, however, will carry 11 or more, if in fine order. The foot-stalks are very long, throwing the flowers far apart, and if over-thinned the truss will have a spoiled appearance. Tube large, round, and open, of such poor substance and colour as to let down the whole flower long before the other parts are worn out. In a few days the tube bleaches, making the whole flower look cold and watery. The golden tube is a grand property, and with the expressiveness, life, and fire it gives, a flower possessing it, though weak and poor in other respects, looks rich and beautiful. In Prince of Greens the paste is very circular, and it might often with advantage be a little broader and a little denser. Ground-colour pure black, of great power, beautifully proportionate, and constant to the last. Edge a rich, pure, faultless green that, with the body-colour, lives fresh on the pip after the tube has died to a livid purple.

ANNA.—A much freer grower than its parent, Freedom. Foliage plentiful, of upright pointed habit when young, and afterwards recurving, balloon-shaped, and much serrated on the upper edges, much veined, and of a deep green; good truss. Pip large, of great substance, and broad petals very circular and flat. Tube yellow, open, round, and bold. Paste brilliant and broad and circular. Ground-colour broad, bold, and of a curious dead-black, never changing. The edge is a dark pure green, broad and lasting. This flower has none of Freedom's angularities, and also not its brilliancy, but it is a distinct and correct green-edge.

PAGE'S CHAMPION.—Where this variety succeeds well, it makes a very free and handsome plant. Foliage glossy, bright green, very broad and thick in texture, richly curved and veined, edges crumpled and serrated. Truss large, with or without a small guard-leaf, and generally more pips than it can equally perfect. These, however, should not be thinned, upon this variety, till it can be seen whether the interior is tolerably correct, as the paste is often severely cut by the stiff petal segments, and the tube is apt to be large and awkward. Pip of medium size and great substance; petals numerous, short and round, making up a circular outline—the pips are flat at their best, upon foot-stalks sometimes short enough to draw the head rather too close together. Tube a fine lasting yellow, round and large. Paste circular, dense, and bright, suffering at times from encroachments on its breadth by the large tube, and on its

outer edge from cracks at the petal-segments. Ground-colour a rich reddish plum, of great beauty when fresh, but losing its brilliancy before the rest of the flower has grown old; heavily laid on, and always broad enough, sometimes too much so, for the proportion of edge. Not infrequently the pips bloom with a convex surface of paste and ground-colour, and it becomes impossible to get the flower flat. Edge a beautiful, vivid, pure emerald-green, of great refinement.

IMPERATOR.—A good grower, making a large, well-furnished plant, though never so with me, owing to the heart continually dividing into heads after the bloom. Foliage smooth bright green, serrated on the upper portions, long, pear-shaped, and plentiful. This variety should have shown its truss before spring, to be in good character. Indeed, all the green-edges should be truss-bare early; the only exception I know being Prince of Greens, which has always given me the best blooms from a truss formed later, and its worst from one bare in winter. With many brilliant points latent in its nature, no flower so commonly makes a hash of it as Imperator, being often seen in a disgraceful condition. Truss large, carried on a stem much too long, small guard-leaf, and pips entirely devoid of meal, an exception to the rule that Auriculas of even the greenest habit will honour their flower-stems and pips with this graceful decoration. Pip large, of stout substance, with petals more or less pointed, often obnoxiously so; flattens fairly, but must not be exposed to a chill. Tube good in colour and very lasting, round, and of good proportion, paste at its best, brilliant circular and sufficient, but often seen in the vilest condition,—i.e., thin, rough, and scattered. Ground-colour a splendid enduring black,—a very grand feature when correct, but often not broad enough, and “foxy.” Edge a pure, superb, rich, bright green, apt to be left too broad when the ground-colour fails in volume. A now almost traditional truss of Imperator, once grown by Colonel Lee, lives in the memory of our oldest growers as the most wonderful example of a green-edged Auricula ever seen by mortal eye, but the number of times it has been seen before and since as the most execrably bad, is past all computation. I have gone so far as to knock Imperator's head off, as a scandal to the house.

TALISMAN.—A seedling, raised by Mr. Simonite, from Admiral Napier, to which it is greatly superior, rather surprisingly so, since its parent has faults so ingrained as angularity and instability of form. Talisman is a lovely green plant, with a dust of gold-meal on its tender growths. Foliage very plentiful, handsomely recurved, broad and thick, and stoutly serrated. Truss large and well carried, with

guard-leaves. Pip large, strikingly bold, round and flat. Tube good yellow, which lasts, bold and circular. Paste dense, smooth, broad and bright and circular. Body black, of very solid volume, with bold blunt dashes into the area of the edge, on which, however, it does not trespass. Edge a pure rich green, of sufficient width.

I think among the Green-edges these few will suffice to stand as foreground-figures representative of their class. Other known varieties of less prominent position and so less coveted may, if need be, stand in less full outline behind these foremost ones; while seedlings as yet unknown away from home may hereafter form a group of themselves, when they shall have given sufficient earnest of a brilliant career.—F. D. HORNER, *Kirkby Malzeard, Ripon.*

MARKET PLANTS.—II.

CYCLAMENS AND MIGNONETTE.

THE Persian Cyclamen is one of the earliest autumn-flowering plants sent into market. It is grown in enormous quantities for this purpose, and it is valuable, in that it supplies charming pot-plants, as well as an abundance of cut flowers. During the past fifteen or twenty years, quite a revolution has taken place in the treatment of the *Cyclamen persicum*, and one of many advantages resulting therefrom is that it has now ceased to be a spring-flowering plant merely, but is to be had in flower as early as October, while by means of successive sowing, relays of plants can be had up to April and May. Two old practices have passed away into the limbo of exploded notions; one was the roasting process,—that of placing the bulbs out-doors fully exposed to the sun, for the purpose of ripening them off, as it was supposed; the other, of dividing the bulbs, or corms, as they are termed, for propagating purposes. This was always a risky and unsatisfactory, as well as a slow mode of increase.

The grower of Cyclamens for market sows his seed in August, soon after it is gathered. It is said the seed will germinate much more quickly and more regularly when sown directly after being gathered than if kept to the following spring; be this as it may, August sowing is a great advantage in point of time. At sowing-time a large number of 48 or 5-in. pots are prepared, well drained, and filled with a good light soil, of

which leaf-mould and silver-sand form a good proportion. From a dozen to fifteen seeds are sown in each pot, and pressed down firmly into the soil. The pots are then placed in a low span-roofed house, where there is a gentle bottom-heat, the house being devoted entirely to Cyclamen-raising. The surface-soil is kept moist, and pieces of glass are placed over the pots containing anything of more than usual value. The pots are stood on high level stages, bringing them as near the glass as possible. By the end of September the seed-leaves are visible, and through the autumn and winter the young plants are kept gently moving on in a warm, moist atmosphere, and green-fly is kept down by constant attention.

As soon as the turn of days is reached—say the third week in January—the plants are carefully lifted from the seed-pots and potted singly into small 60-pots, and kept in a warm and somewhat close temperature for a time. By the end of February they are brought nearer the light and also to the glass, but still keeping them close and warm. The first three or four leaves, being the seed-leaves, soon fall away. Then the corms swell quickly, and put forth leaves showing the peculiar markings of the variety. During April and May the most forward plants will be potted into 48 or 5-in. pots, the usual blooming size; and these are grown on to flower in October following, being kept during the summer in cold frames, kept freely watered, shaded from the sun, receiving plenty of air, and being grown as sturdy as possible. As some of the seeds will be quicker to start into growth than others, a batch of seedlings will be certain to provide a good succession. At the end of September, as the plants open for bloom, they are taken into a span-roofed house, where a nice equable temperature is maintained, and they soon throw up and expand their flowers. In this way Cyclamens are had in flower in from fourteen to fifteen months from the time of sowing. In all its stages of growth the Cyclamen needs constant attention, and it well repays it. It is very subject to attacks of green-fly, which cluster about the buds; but this pest is quickly subdued by fumigation with tobacco-smoke. The extent to which Cyclamens are grown for market is shown by the fact that a large cultivator like Mr. H. B. Smith, of Ealing Dean, rears annually from 15,000 to 18,000 plants.

MIGNONETTE.—This is grown most extensively for market, and some growers excel in producing it in superb condition. They have a peculiar strain of seed, best fitted for the purpose, and they take care to preserve it. From the time of sowing to the time of marketing, Mignonette occupies but one pot; for it is sown in that in which it blooms, namely, 48-size. The seed is sown from the end of August until the end of March. Mignonette is marketed some eight or nine months in the year, extending from early in January up to September. The pots are well drained, and then filled with good and rather light soil, a few seeds scattered over the surface and pressed into the soil, a very light covering added; and the pots are then placed in low cold frames, in which the pots are brought near the glass. The seed quickly germinates, and when large enough the plants are thinned out to about eight or nine, and then as they attain height they are put into frames a little deeper, till they are 8 or 9 to 12 inches in height, and in bloom. The process is very simple; and here, again, constant attention lies at the root of success.

A pot of well-grown Mignonette shows several well-grown, robust-looking, finely-branched plants, with good spikes of deliciously fragrant flowers. It is in great demand in the market, and growers of good stuff find a ready sale. What in slang language, as in correct English, is known as "knack," is largely possessed by the men who grow for market; and there is this substantial reward lying in store for them—the best plants always command the highest price.—RICHARD DEAN, *Ealing, W.*

FRUIT PROSPECTS.

IT is almost too soon to write of these. Fruit cultivators are, in fact, much given to counting their chickens before they are hatched. Well, perhaps that is better than not counting at all—the miserable fate of those who have no anticipations, and have had to live for the past few years—writing broadly—on the empty husks of barrenness. True, "hope deferred maketh the heart sick." But it is equally or more true, though seldom stated, that the heart would be still more sick without hope. And it is thus with fruit-growing and the seasons. If once more we are doomed to a

fruitless season out of doors, let us at least snatch the fleeting pleasure of anticipating a harvest. Possibly, too, this will prove the likeliest means of reaping one. Despair is no match for hope as a stimulus to exertion. The former weakens effort; the latter inspires with strength, and quickens even lethargy into diligence.

It is a pleasure, and it may also prove profitable to announce that the fruit prospects are propitious. The trees not only rested, but recruited last summer. The majority of them bristle with fruit-buds, not quite so plump and large as usual, perhaps, nor so forward. There is a world of meaning and of hopefulness in the phrase, "Later than usual." A cold time towards the end of February and throughout March would prove the salvation of the Apple, Pear, and Plum crops. Peaches, Nectarines, Apricots on walls, while more exposed to danger, alike from their greater precocity and their tenderness, are also far more susceptible to efficient protection. Glass copings, in fact, 18 in. or 2 ft. wide, draped with woollen netting, or canvas hanging down to within a yard of the foot of the wall, forms practically an impenetrable barrier against ten or twelve degrees of frost. Beyond that, we are powerless to protect our superior fruit-trees without glass, or even something more. Let us hope, however, that as the season has been thus far exceptional throughout, so also severe late spring frosts may not succeed this mild and wet winter; and if not, there is good prospect of a fruitful season.—D. T. FISH, *Hardwicke*.

VILLA GARDENING.—MARCH.

TILL does winter stay its threatening hand, and unless some very unusual break in the weather occurs, it may be assumed that the winter is past, and the spring is at hand. There is yet much need for watchfulness on the part of the gardener for experience shows that springs are fickle—late, cold, and inclement; and however much the gardener may desire to retard his crops, he finds himself unable to arrest the progress of that irresistible force which nature exerts,

"When all Earth's buried beauties have new birth."

GREENHOUSE.—A very useful old gardening book contains the following good advice to amateur gardeners at this season of the year:—"Follow up the old maxim that 'prevention is better than cure,' and fumigate about every nine days or fortnight, but do not proceed to extremes; moderate doses frequently repeated will be found most efficacious. Or you may fumigate as soon as you see a single insect

for if you wait until there are thousands which you can see with your naked eye, there will be also tens of thousands which you cannot see without the aid of glasses. The evening or during wet weather is the best time to perform this operation, or an artificial shower may be effected, by using the engine or syringe on the outside of the structure, and thereby filling up the laps of the glass with water. All this may appear troublesome, but if you do not keep the plants clean, you cannot reasonably expect them to thrive"; and now that many plants are getting into budding growth, green-fly will gather rapidly, and no quarter must be given them. *Fuchsias* that have been put by to rest during the winter now need attention, as they are starting into growth; the plants need to be turned out of their pots, the roots trimmed by removing the long main ones, leaving any small fibres, and repotting the plants in as small pots as will take them, using a fine light rich soil. Then, as soon as they break freely into growth, the branches should be cut back to the strongest shoots, leaving a good regular frame-work out of which to grow a fine specimen. The best *Fuchsias* for an amateur are those raised from cuttings struck in August and wintered in small pots; now is the time to repot them, for growing on rapidly and well. Cut-back plants of *Heliotropes*, one of the sweetest of early summer-blooming plants in the conservatory, should be similarly treated; and there are other subjects that will suggest themselves to the villa gardener, among these *Zonal Pelargoniums*, for the summer display. As an increase in growth in all plants is now taking place, a more liberal allowance of water must be given, and a well-managed house begins to repay the care bestowed on the subjects during the winter, for *Ericas*, *Epacries*, *Cyclamens*, *Cinerarias*, *Camellias*, *Hyacinths*, *Narcissi*, &c., are getting gay. Cleanliness, air, light, and water are now the great essentials, and last, but not least, room. Plants are often too much crowded, but it is better to grow fewer plants and grow them well, than to have a large number with but few good specimens. Remove the surface earth in pots that has become moss-covered and sour; a little good soil added as a top-dressing does much good to them.

COLD GREENHOUSE.—Much of the remarks just given applies here also, for airiness, room, and cleanliness are all-important. In the warmest portion of the house, *Cyclamens*, *Cinerarias*, *Primulas*, and such-like will do well, but they are all the better for a little warmth. In our own house, berried *Solanums* are still gay; and the cold frame is supplying *Primroses*, *Polyanthuses*, *Scilla sibirica*, *Triteleias*, *Anemone fulgens*, *Hepaticas*, *Hellebores* especially *Helleborus colchicus*, *Crocus*, and other spring-flowering bulbs. Large-flowered *Pelar-*

goniums have wintered admirably, but as they are very apt to become affected with green-fly, much close attention is requisite. That most fragrant of spring flowering plants, *Aponogeton distachyon*, is blooming freely in a small tank. It is well not to unduly push forward any plants; give them plenty of air, and let Nature do her work in her own time.

FLOWER GARDEN.—Any last touches required to put the flower garden in order before the summer season comes on should now be given. Grass-plots should be levelled and rolled, so that there may be a firm, even surface for the scythe or mowing-machine. *Box Edgings* should now be replanted where required, all kinds of shrubs thinned and shortened back, and the soil about them made neat and tidy. The orderly appearance of the surroundings of a flower garden have much to do with enhancing its appearance. Thin-out and nail-up *Creepers*, also *Climbing Roses*; but as nailing occupies a great deal of time, it is a great saving of labour to train them to galvanised wire-netting, fastened to the wall behind the plants. Towards the end of the month prune *Roses*, and mulch with some rotten dung. *Clematises* are very active, and the strong summer-blooming varieties of which *Jackmanni* is such a conspicuous type, should be cut back almost close to the ground, when they are required to cover low walls and fenees; but if they are required to get up high, they should be shortened back accordingly. When pruning is done, fork the soil gently about the roots, and mulch with manure. The spring-flowering *Clematises* must not be cut back, but the dead wood cut out merely. Keep the surface-soil of the mixed border cleansed and well stirred in drying weather, and top-dress with leaves and dung.

COLD FRAMES.—Plenty of air is now the rule, and when the weather is mild, but with a soft rain falling, a gentle shower will do no harm. When there is a strong wind and driving rain, tilt up the lights at the side opposite to that from which the wind is blowing. *Auriculas* and *Polyanthuses* should be top-dressed without delay; the latter are rapidly coming into bloom. Make a note of the *lilae* variety of *Triteleia uniflora* to grow in pots; it is charming in colour and very free. *Bedding-plants* in store-boxes must now have water when required, and be gone over occasionally to pick off all damp and decaying leaves.

KITCHEN GARDEN.—*Asparagus*-beds should now be dressed with well-rotted manure, forking it in lightly, so as not to injure the crowns. Those who are fond of *Jerusalem Artichokes* should now plant a few, much as Potatos are planted. Sow *Beans* and *Peas* for successive crops, selecting the dwarf, wrinkled varieties of the latter for small gardens. Sow also *Celery*, *Brussels Sprouts*, *James's Intermediate*, and

Long Red Surrey Carrots, the latter for the main crop, *Leeks, Onions, Lettuces, Radishes, &c.* Take advantage of fine drying weather to sow seeds in the open ground, but Celery and other things raised in boxes can be sown at any time. Raise a few *Cucumbers* and *Vegetable Marrows* in heat, for planting out by-and-by, as required.

FRUIT GARDEN.—Pruning and nailing must be proceeded with without delay, and should further planting be necessary, lose no time in doing it. *Gooseberries, Currants, and Raspberries* should be pruned at once, and the soil dug about them. All this cannot be completed too soon, for a general advance is now perceptible, owing to the balmy influences that are abroad.—*SUBURBANUS.*

GARDEN GOSSIP.

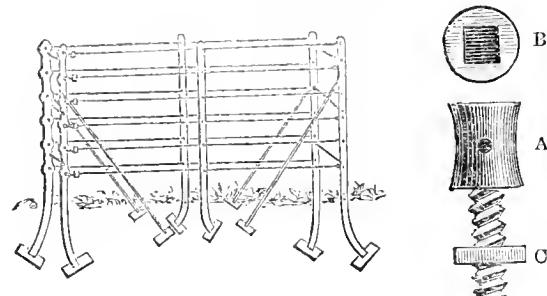
THE Annual Meeting of the ROYAL HORTICULTURAL SOCIETY, on February 12, which was presided over by Lord Aberdare, was very thinly attended. The Council in their Report to the Fellows, referred, as they were bound to do, to the work of the several Committees, as having been most assiduously performed—these being, in fact, the backbone of the Society. The Society's *Journal* was referred to apologetically, with a hope that it would shortly reappear in a form worthy of the Society, which it has not done lately; and we may add a hope that if at all it will also appear more promptly. The Provincial Show fund having been misappropriated by a former Council, "cannot be recovered," and so the form of guarantee for the Preston Show is to provide for the future security from "misappropriation" of any profits from such a source. Chiswick stands out nobly as having done its work well. "The ordinary receipts for the year have exceeded the expenditure by £11 17s. 1d., to which must be added the sum of £336 19s. 7d., levied upon and paid by the Society in past years in respect of rates, which should have been paid by her Majesty's Commissioners, and which they have repaid to the Society." If the Horticultural body will now but rally round the old flag, there seems to be some hope for the future.

— WE have received from Mr. Shaw, of Finchfield, Wolverhampton, the first part of his *ILLUSTRATIONS OF FERNS FOR AMATEURS*, an attempt to supply the means of identifying ferns without much letter-press description. The idea is a good one. Reduced figures of twelve species are given on a page, and opposite these are somewhat enlarged portions of the same, the intermediate pages being occupied by descriptive notes. The reduced figures of the plants are in many cases not very characteristic, while the figures professing to give an enlarged view of the parts are in themselves so small as to be practically useless, though in the space devoted to them there is room for much better figures. Were these indeed larger and better worked out, so as to give the details with more clearness and accuracy, the book would be much more likely to be useful.

— THE SCHEDULE OF PRIZES for the Show

of the NATIONAL AURICULA SOCIETY (Southern Section), at the Crystal Palace, on April 25, has been issued for some time, and can be had of the Hon. Secretary, E. S. Dodwell, Esq., 11 Chatham Terrace, Larkhall Rise, Clapham, S.W. The prizes are similar to those offered last year. There is yet a deficiency in the subscriptions for prize-money, which the officials would gladly see filled up, and contributions towards which would be thankfully acknowledged by Mr. Dodwell. The rules and conditions for showing are the same as those of last year, the innovations then introduced being, we believe, generally regarded as advantages.

— IN districts where Pea-sticks are not readily obtained, WILKINSON'S TRAINER FOR PEAS, represented in the annexed figure, may be recommended as a handy substitute. With ordinary care, they last a lifetime. Having feet and stays complete, they can be fixed by any labourer, and be put down after the peas are sown without disturbing them. The figures represent one of the



Pea-trainers, which can be adapted to any length of row by increasing the number of intermediate standards, each row requiring a straining standard, a terminating standard, and one or more intermediates, according to the length, the usual distance apart being 15 ft. The smaller figure is the strainer. A is the head through which the wire is passed. The wire is pulled tight and cut off, and the ends just turned back. On the end of the head, near the screw, are two teeth which work in cogs on the standard, preventing the wire from slipping back when turned round, which is done by inserting a square key in the end. B shows the end and key-hole. After the wire is as tight as required, the nut, C, is tightened up with the spanner, thus making it impossible for the pulley to turn back. The inventor is Mr. Wilkinson, of Newton-le-Willows, Lancashire. A form with vertical wires is made for Scarlet Runners, and the trainers are also recommended for Raspberries and espalier fruit-trees.

— AN excellent portrait of JOHN CLAUDIUS LOUDON, painted by Linnell, has been secured by subscription, and will be presented by the subscribers to the Linnean Society. The portrait is half the size of nature, an excellent likeness, and remarkable as a work of art; and it has been obtained at a cost much below its real value, on condition of its being placed in the Linnean Society's rooms.

— IT has been observed that in certain soils and situations, more than in others, VARIEGATED-LEAVED PLANTS show a disposition to lose their variegation. Now, it has been ascertained by recent experiments that the ashes of white and of green leaves differ very much in their

chemical composition. According to these experiments, the ashes of white leaves of *Acer Negundo* contain 45·05 of potash, while those of the green contain but 12·61. The white leaves contain 10·89 of lime, the green 39·93. Quantitative analyses upon *Hedera Helix* and *Ilex Aquifolium* show about the same proportion of difference between the variegated and green leaves. We may infer, therefore (says the *Rural New Yorker*), that if we wish to preserve or increase the variegation in plants, they must be fed with a maximum of potash and a minimum of lime.

— THE Rev. H. Harpur-Crewe has recently flowered the beautiful *IRIS KOLPAKOWSKIANA*, which is one of the *Xiphion* group, and a native of Turkestan. A couple of bulbs received from Dr. Regel in the autumn were crushed nearly flat in the post, but planted in prepared charcoal—a wonderful restorative for injured or diseased bulbs—one has recovered sufficiently to flower. It is a very distinct and lovely species, and a most companion for its beautiful sisters *Histro* and *reticulata*. The bulb somewhat resembles that of *reticulata*. The leaves are two or three in number, short, obovate, lanceolate; stem little or none; limb pale lilac, shaded with white; falls obovate, tapering to a sharp point, at the base pure white, tips bright lilac, the keel bright yellow, feathered with purple towards the base, the standards and claws pale lilac minutely fringed with white, giving the appearance of reticulation. It was flowered in a pot in a cold frame.

— THE RICHMOND HORTICULTURAL SOCIETY is prospering under the presidency of the Duke of Teck, who takes a lively personal interest in its affairs. The schedule of prizes for the Show on June 27 is now issued, and should bring together a good exhibition. We are glad to see that the society is well supported by the nobility and gentry of the surrounding district, who cannot do a better work than forward the interests of a well-managed horticultural society. The Society this year gives the winners the option of receiving their awards in medals or money.

— QUITE recently it has been found that the *LUCULIA GRATISSIMA* can be managed like the *Hydrangea*; and that treated much in the same way, it will give a dwarf plant in a 5-in. or 6-in. pot, crowned with a large head of rosy-tinted flowers, possessing a fragrance not surpassed by those of any other shrub. To Messrs. Osborn, as noted in the *Garden*, is due the credit of showing how this grand plant may be utilised. Young plants of this beautiful greenhouse shrub were blooming finely about Christmas in their nursery at Fulham. They were struck from cuttings just before the flower-buds showed themselves, and the result was the formation of neat plants, from 6 to 8 inches in height, in 5-in. pots, surmounted by a large head of deliciously fragrant blossoms. Grown in this way, the *Luculia* will be one of the most popular of market plants at the festive season, when fragrant flowering plants are specially in request.

— THE NEW ZONAL PELARGONIUM WHITE VESUVIUS is a white-flowered sport from the well-known scarlet type, which it resembles in habit and general good qualities,—in fact, it is a veritable counterpart in white of the glowing scarlet from which it originated. For flower-

garden decoration, or for culture in pots for winter flowering, it may therefore be expected to prove specially valuable.

— A NEW double white VIOLET, *BELLE DE CHATENAY*, has lately been introduced from France, and will form a good companion to the *Neapolitan*. The plant is a profuse bloomer, and comes into flower during winter with very little forcing. Its flowers are about an inch across and very double. They are of a delicate mauve in the bud state, but become pure white as they expand.

— MR. WILLIAMS is now sending out the new high-coloured *PRIMULA SINENSIS FIMBRIATA COCCINEA*. It is a brilliant variety, and was certificated when shown recently at South Kensington. The leaves are palmatifid, the flower-truss bold and firm, and the flowers large, finely rounded, with a full-frilled edge, the colour being a bright crimson-magenta, similar in tint to Brown's *Exquisite*, but a better shaped flower of greater substance.

— THE TIMBER OF THE *SYCAMORE* (*Acer Pseudo-Platanus*) is very extensively employed in Lancashire in the construction of the heavy rollers used by calenders and cloth-finishers, and when of a size suitable for that purpose, 18 inches or more of quarter-girth, it is in much demand, and realises good prices. The *Journal of Forestry* states that the boles of four moderate-sized trees, containing in all 200 cubic feet of timber, averaging 20 inches in the quarter-girth, were lately sold on the Earl of Wilton's estate of Pilsworth, near Bury, at 2s. 6d. per foot, realising the handsome sum of £25 for the four trees, without taking into account the limbs or large branches, which are used in the manufacture of bobbins, &c., and realise a paying price when sold for that purpose.

Obituary.

— MR. JOHN KEYNES died at Salisbury on February 17, in his 73rd year. In early life he was established in business as a brushmaker, but from youth upwards was an amateur cultivator of florists' flowers, his first fancies being the *Pink*, *Carnation*, and *Picotee*. Subsequently, he became a professional florist, and at a later date proprietor of Moody's Nursery, where he gradually developed a most prosperous nursery and seed business. Mr. Keynes was one of the most renowned and extensive cultivators of the *Dahlia*. Latterly his three specialities have been *Dahlias*, *Pot Vines*, and *Roses*, the latter being admirably grown and shown by him. In 1872, Mr. Keynes was twice entertained in public by his floral friends, the occasion being his having attained his 50th year as a florist. He was Mayor of Salisbury in 1877. By his death one of the last links of the chain connecting the old florists with the present generation is broken.

— PROFESSOR ELIAS FRIES, the veteran mycologist, has recently died at Upsala.

— MR. PHILIPPE VICTOR VERDIER died on February 3, in his 75th year. He is known as the raiser of Madame Furtado, François Lacharme, Olivier Delhomme, Vicomte Vigier, and other of our better sorts of *Roses*.





W. H. Fitch del.

G. Severeyns, chromolith. Brussels.

Epacris

1. Onosmæflora. fl. pl. nivalis 2. Butter.fly. 3. Densiflora 4. Sunset. 5. Devoniensis.

EPACRIS ONOSMÆFLORA FL. PL. NIVALIS.

[PLATE 464.]

HOUGH not the first double-flowered *Epacris* which has been noted, since an *Epacris impressa flore-pleno* has been already recorded, this and a near ally are, we believe, the first which have been seen in cultivation. They are New Holland plants, and have been imported by Mr. W. Bull, of Chelsea, to whom we are indebted for the specimen of *E. onosmæflora fl. pl. nivalis* here depicted (Fig. 1), and which is much more beautiful when seen on the plant than it is possible for its representation to appear on paper, though a very fair idea of the charming character of its abundant rosette-like flowers may be gained from Mr. Fitch's excellent drawing. Indeed there are few finer hard-wooded plants than this *Epacris* will prove when well-grown specimens come to be produced. The following are the descriptive notes taken when the plant was in bloom in March, 1877:—

A free-growing greenhouse evergreen shrub, producing long leafy shoots, which, when the blossoms are developed in the leaf axils form crowded spikes of flowers, the leaves being almost hidden by the profusion of blossom. The leaves are ovate acuminate, thickly placed on the stems, spreading in all directions. The flowers are of the purest white, and have a tubular base and a five-lobed spreading limb, the interior organs being changed into white petals, which spread out to the full extent of the corolla-lobes, and form with them a flower which on the face or front view is exactly rosette-shaped. The spikes are a foot long

and upwards in plants by no means freely cultivated, so that with vigorous growth they would no doubt considerably exceed this length. It produces broader and fuller spikes than the plant next to be noted. Altogether, it is a very beautiful acquisition amongst hard-wooded greenhouse plants, a class to which of late, during the era of palms and fine-foliage plants, much too little attention has been paid.

Another double-flowered variety of the same species, *Epacris onosmæflora fl. pl. alba*, was imported at the same time, and was awarded a First-class Certificate by the Royal Horticultural Society in 1876. It resembles *nivalis* in growth, and is quite distinct in its rather smaller, but fully double blush-white flowers, the interior petals more distinctly apparent within the corolla-tube, the lobes of which have more the appearance of a series of guard-petals. A third variety, with semidouble flowers, has also been imported.

The other varieties figured in our plate are introduced for contrast, and comprise some of the most pleasing of the modern varieties; they are of cross-bred or hybrid origin, but with the character of *E. impressa* preponderating. The varieties named *Butterfly* (Fig. 2) and *Densiflora* (Fig. 3) are remarkable for their rosy-pink tube and white limb, whilst *Sunset* (Fig. 4) and *Devoniensis* (Fig. 5) have the flower-tubes longer and the tints of crimson rich and attractive, amongst the brightest to be found in this valuable genus of winter and spring-flowering greenhouse plants.—T. MOORE.

NOTES ON MASDEVALLIAS.

MASDEVALLIAS are now becoming very numerous in our collections of cool orchids, and they are not only numerous but extremely varied in character, and in some instances exceptionally beautiful. They have all a neat habit of growth, which commends them to the notice of the cultivator. In their flowers some are gorgeous in the extreme, the tints of colour which occur in *M. Veitchii* (scarlet, shot with purple), *M. Harryana* (magenta-crimson), and *M. Lindeni* (violet-rose) being probably unapproachable in

richness and brilliancy in the whole range of the vegetable world. It is the group represented by these, and of which *M. Davisii*, a yellow-flowered species, represented in the woodcut on p. 52, is another example, which has won for the genus the popularity which invests it. Other species are exquisite floral gems, but being of smaller size and less brilliant colours they are not effective in a general way, and require closer examination in order to realise their special type of beauty. *M. ionocharis*, represented in the subjoined cut (p. 51),

which has white, purple-blotted flowers, is an example of this set, and makes rather a pretty tuft into the bargain. There is also a set of *Masdevallias* having flowers of a curious weird aspect, such as *M. Chimæra*, which has creamy-yellow flowers, with dark spotting and a shaggy surface, and bears a slipper in place of the lip, and the odd-looking brownish *M. Nycterina*,

and abroad—has obligingly furnished us with the following notes on this subject:—

The *Masdevallias* should be potted in a mixture of rough fibrous peat and chopped sphagnum moss, which should be pressed moderately firm about the roots; whilst to keep the roots moist, and to present a pleasing surface to the eye, the soil in the pots



MASDEVALLIA CHIMÆRA.

compared to the night-bird. Of the former of these the annexed figure, derived from the *Gardeners' Chronicle*, gives a good idea, though shown on a considerably reduced scale, as, indeed, are the other species represented.

Most of the *Masdevallias*, but not quite all, belong to what are known in gardens as "cool" orchids. All the more beautiful forms belong to this set. Mr. Williams, who is one of the best cultivators of Orchids generally—as witness his success at exhibitions, both at home

should be covered with living sphagnum. They will not bear a strong heat, and they must on no account be allowed to suffer from drought. They do not require a season of rest, like many others of this family, but continue growing on throughout the year, if a genial moist atmosphere is provided for them. This moisture must be produced by condensation, and not by deluging them with water from the syringe. The drainage must be kept in perfect order, for the plants cannot endure either soured soil or

stagnant moisture to remain about their roots. They require an average temperature of 60° to 70° in summer, and of 45° to 60° during winter.

The plants are subject to attacks of the yellow and green aphides, which should be washed off carefully with tepid water. On no

account should they be fumigated, since the fumes of tobacco have been found to have a deleterious effect upon them, as also upon most other "cool-house" orchids. They are increased by divisions of the tufts, which are naturally formed, but a young growth should form part of each division.—T. M.



MASDEVALLIA IONOCHARIS.

GOLD FISH FOR AQUATIC PLANT HOUSES.

WRITER in the *Field* has noted "that an aquatic house can hardly be said to be complete without gold-fish, which are exceedingly easy to rear and keep. What they need most is heat, for though they will live for a long while in a cold tank, they will not breed, but when placed in water at a temperature of 85° or 90° , their fertility is prodigious. In a house devoted to aquatics, at one time under my charge, I had a very good opportunity of noticing their capabilities in this respect, and the effects of cold water in retarding their development. The tank was emptied during the winter months, and was filled again in April, and

planted with aquatic plants. The fish were put into the tank at the same time, and were not removed till October or November, by which time the tank used to swarm with young fry, mostly of a dusky black colour—for they seemed to change to the golden colour at various ages. When the tank was emptied in November they were removed to a cold tank beneath the stage of one of the other plant houses, and some fish were always left here during the summer, but they never bred, and those that were put in black seldom or never changed to the golden colour. We kept a good-sized fish by itself in a slate tank in a cool cineraria-house, for eighteen months or two years, and it kept its dark colour all the

time. Some were put into a tank above one of the boilers in the pine stove, where the water was never under 90°, and oftener as high as 110° and 120°—a temperature which did not seem to discommode them much; but they became sluggish in their habits, and when the pipes were hot, and the water consequently very warm also, they came to the surface and remained there, often putting their mouths out of the water as if to breathe, though I suppose that would not be their object. The tank in which they bred so freely was only 9 in.

deep, and had a bed of soil in the centre, from which the mud distributed itself all over the bottom, and in this the fish, no doubt, found an eligible spawning-ground. They were left to take care of themselves as regards feeding, and the water was kept fresh by allowing a tap to trickle slowly into the tank during the day. When the fish became numerous, it was a very pretty and interesting sight to see them glinting about among the leaves of the aquatics.—C."



MASDEVALLIA DAVISII (see p. 49).

CINERARIAS, SINGLE AND DOUBLE.

PERHAPS one of the most remarkable strides made of late years among florist flowers is to be seen in the 'single' varieties of the *Cineraria*, Mr. James's shown at South Kensington and the Regent's Park were as near perfection as it seems possible to arrive at.

Many of your readers will remember the original rude, starry-shaped flowers, remarkable only for their large daisy-like disk or eye surrounded by a few thin narrow ray florets. These are happily things of the past. The *Cineraria* of the present day is of dwarf com-

pact habit; the trusses of blossoms are large, close, and even on the surface; and the individual heads of flowers stand together so that the edges of the florets just touch each other; whilst each separate flower (more strictly each flower-head) is of great size, and forms a complete circle, the florets (often called petals), being broad and stiff, and of the most beautiful and varied colours.

The 'double' *Cineraria*, from which so much was expected, has so far disappointed most

growers. The seed that has been sold as that of the 'double' has generally produced utterly worthless varieties. From a 7s. 6d. packet purchased last season I had not one double flower. Some few good double flowers have, however, been seen, so that we may hope ere long to meet with some advance in this class of varieties, for they would be most valuable plants for decorative purposes.—EDWARD BENNETT, *Rabley Nursery, Shenley*. [Messrs. Dickson and Co. have some good doubles.]

THE REV. G. JEANS ON THE PHILOSOPHY OF FLORISTS' FLOWERS.—I.

ON one of the earlier volumes of the first series of the *FLORIST* (1849) was published a most valuable series of papers on the "Philosophy of Florists' Flowers," by the Rev. G. Jeans, writing under the *nom de plume* of "Iota." No such clear definition of the principles which should guide the true florist in his attempts to mould any particular flower to his requirements, has been penned either before or since. As the early numbers which contain this series of papers are out of print, we have been requested to republish them, for the benefit of the florists and lovers of flowers of a new generation. This we have consented to do, in the hope of clearing away some of the misconceptions which exist as to the aim and objects of those who engage in the cultivation and improvement of what are called "florists' flowers"—a gradually widening circle, extended by the acquisition from time to time of some new popular favourite, but to which the same principles, *mutatis mutandis*, will always apply. The papers consist of a series of letters addressed to the *Superintendent of the FLORIST*, and we commence with that published in May, 1849. To quote the words with which they were then introduced to the public, we may also hope that "many will be furnished in these essays with replies to such objections as Addison raised in his day—that he looked upon it as a piece of happiness that he had never fallen into any of these fantastical tastes—objections which are largely partaken of by others in our own times, who eating with the greatest satisfaction fruits improved in size and flavour by the skill of the fruitist, would try to cast ridicule upon florists, for attempting to develope those beautiful forms and colours in flowers which administer to as refined a taste as that of the palate." Mr. Jeans writes:—

"When you said, in your number for November, that you had had a smile excited by seeing the worst *Pelargoniums* in your collection the most admired, you only spoke the experience of all who have a collection of any florists' flowers; to whom it is a common mortification, when exhibiting the objects of their care to casual observers, to have the most perfect kinds passed by without notice, even when attention is called to them, while the defective are singled out for approbation. This well-known fact is often appealed to as a proof of the intrinsic unsoundness of the florist's standards of preference, and of the uselessness of his labours; in fact, that all is mere whim and caprice.

"There is also another difference between the cultivator and the public, somewhat more specious as a matter of reproach against us, and often triumphantly adduced as decisive of the advantage possessed by the uninitiated over the initiated,—that a simple admirer of nature will look with pleasure upon a *Primrose* or a *Pansy*, from which the connoisseur would turn with disgust. It is thence argued that our science is *worse* than useless.

"Nor is this treatment of our pursuit confined to those who, being ignorant themselves, would fain plead for 'ignorance as bliss.' The really scientific and kindred botanist (he must excuse us for claiming the relationship of a younger brother) misappreciates our labours, and holds them in greater abhorrence than the most resolute upholder of the 'natural system' of vandyked *Pinks* and *Carnations*. He calls our double flowers *monsters*, and our varieties *hybrids*. Perhaps it may be new to some of your readers that the meaning of that latter word is, 'offspring of violence done to nature.' And as we, in the simplicity of our ignorance, or the consciousness of our rectitude, have adopted his term of reproach as a convenient one to express a factitious variety obtained by crossing the seed, it will remain as a standing testimony of the opinion botanists had of the

practice. And it is a fact that, as a class, they still despise the whole system of fancy flowers, and even carry their prejudices so far as to *dislike* the beauties that have been obtained by art.

“Here, then, are three formidable classes of opponents, to one or other of which I think all the objections I have heard raised to the art of the florist may be referred. And as my object in these papers is to show that they are all and severally untenable, it appears better to meet them and join issue at once; after which I will endeavour to demonstrate and apply those fixed laws of nature, through which have been developed whatever advances have yet been or will hereafter be made in the improvement of certain flowering plants.

“I. The first objection is, that what are counted excellencies in the eyes of amateurs are mere matters of taste and caprice; that the standards by which they are judged are purely arbitrary and conventional; and that no sufficient reason can be given why any other standards might not as well be adopted as those in use, because taste is most variable and inconsistent.

“Persons who thus reason should be reminded that the general amount of consent among those who have engaged in the pursuit and paid attention to it,—and those not of one time or one place, or among those only who were influenced by each other’s opinions, but of all times and of various countries, and often bearing no respect towards one another,—should suggest a doubt whether facts are not against them. The truth is, it is a curious matter of inquiry, and one of those which led the writer to think upon the subject, how *much* the facts of the case are against them, and tend the other way; how constant it is that frequent and attentive examination of many varieties of the same species of flower almost in every instance leads the cultivator to value certain peculiarities, whether pointed out to him or not, which constitute the *properties* of that species of flower.

“Not that each would prefer the same variety; that would imply that there is no place for taste at all, for which I shall show that there is a wide, but not an unlimited, field. But that in all the varieties that each most esteems, there will be found certain characteristic points of excellency. This suggests what will be proved to be a fact, that for such agreement there is a *reason founded in nature*; a reason we will afterwards investigate. In the meantime, the mere intimation it gives that these preferences are not arbitrary, is a sufficient answer to the objection as it is usually made.

“The same appearance of mere arbitrary standards of excellency is found in many, per-

haps in most, other objects of pursuit. An ordinary person going among the stock of a farmer who breeds high, would in all probability make the same mistake that you complained of in one ignorant of Pelargoniums, and excite a smile of pity or contempt through his unacquaintance with the technical value of level backs, flat loins, wide forelegs, and straight sides, or by showing so much want of discernment as actually to praise a good-looking animal with a black nose, a fault as inexcusable in a cow, and as surely indicative of defective breeding, as the same appearance would be at the bottom of the cup of a Tulip.

“Now these marks are not arbitrary; no one supposes them to be so in cattle; credit is given to the farmer that he has a reason founded in nature for the points of his beast, though that reason does not lie on the surface, to be discerned by every passing beholder. They are admitted to be what they really are,—an index of its qualifications to fulfil its destined functions.

“The same thing occurs in judging between the relative values of different specimens of the same kind, in all articles, whether natural productions or works of art. There are always some technical marks to judge by, which serve to indicate, in short compass, the intrinsic qualities of the article. And these marks will seem arbitrary to those who do not understand them, because their connexion with the qualities is not seen. The merchant judges of samples by marks that are meaningless to others, but which lead him to a correct result, because they have a real natural connexion with the qualities he seeks. And the florist has an equal reason for the properties of his flower. A novice will sometimes bring a seedling Polyanthus to an older cultivator, expecting the same admiration it has excited in himself. In size, and shape, and colour, and edging, it is perfect; and he is surprised and mortified at the coldness of its reception. And when told why it must be rejected, he considers the floristic canon as arbitrary and unreasonable which condemns an otherwise excellent flower for the trifling defect, if defect it is to be called at all, that the stigma is visible. Yet condemned it would be, and universally, by judges; and they are right, as will be shown in its place. A *pin-eyed* Polyanthus or Auricula has no business in a collection, though not out of place in a border.

“There is no caprice in this. And the real agreement that has obtained all along from the first among florists in their estimate of fancy flowers is greater than is at first discoverable; because they did not set out from a known system acknowledged by all, or by any, and therefore their differences of taste were greatest at first, and diminish continually afterwards.

No such system was then thought of or supposed to exist, but each endeavoured to improve his chosen flower in his own way. But now, after their labours have in a course of years slowly collected various and tangible results, we can see that those results have been reached by successive steps, all in the same direction. The Tulip—which has perhaps been cultivated longest as a fancy flower, and which, as the gaudiest of them, is peculiarly likely to dazzle even the experienced into mistakes of its true properties—has undergone several apparent revolutions of opinion about its standard points. We have now, however, no difficulty in following the successive advances it has made, and discovering that there was no capriciousness, nor any other general alteration of taste than what arose from a general onward progress.

"It may be true that some old varieties exist in most fancy flowers which have seldom been surpassed since; but at the time of their first appearance they were not, as they are expected to be now, the types of the whole bed. And when it is thence inferred that many have been discarded to make room for others no better, or perhaps worse, than themselves, it is not indeed denied that such mistakes may have happened, but from some researches made on the subject, I am inclined to believe they have been comparatively rare. And there is one reason for novelty not generally known except to experienced florists (though popularly acknowledged in fruits), that highly-cultivated

varieties soon wear themselves out and degenerate. Pinks rarely retain their character through more than from ten to fifteen generations of cuttings; and therefore new ones must be continually superseding the old, even though little, if anything, superior to those they displace.

"And as for a person unaccustomed to any species of flower making a wrong selection for his approval, it happens in everything else as well as in flowers, and therefore loses its force. Lace, for instance, is made for the same purpose that the flower was created,—to please the eye; and an unpractised eye would be as apt to pass by the rare and costly, and to select the valueless in lace, as in a Pelargonium. The fact is ever found to be that the most showy qualities are not the most useful, nor is that which will most permanently please that which first catches the unaccustomed eye. But that which is sterling, which will attract without fatiguing the sight, and gratify without offending the judgment, will often be passed over at first without notice. And therefore it is no more a reproach to the study which investigates these facts, or to the art which is founded upon them, that the eye of a novice should make a choice which the same eye, when tutored by experience, would reject, than it is an argument against a more cultivated taste in diet, that a child prefers green fruit to ripe, and leaves wholesome food for gingerbread.—Iota."

REMINISCENCES OF POLYANTHUSES.

POW for a few lines on one of my earlier fancy flowers, the Polyanthus, which, I am sorry to say, has for years been much neglected until just lately, when somewhat of a revival of the fancy has sprung up, and this lovely flower seems likely to be brought to the fore again. It is a slight drawback that at the present time we have scarcely one of the older school of florists left amongst us, either to grow them, or to give their experience for the benefit of those who are to follow in their wake. However, I do not see why new growers should be thereby disengaged. Earnest men who have the fancy at heart will not falter at the sight of slight difficulties.

Some years since I grew a tidy collection of Polyanthuses, but latterly I have been out of them altogether, yet for all that, I think it is possible I may be of some service, by giving a little advice to the young and inexperienced. Those who have lately begun to cultivate

the Auricula must not be led away by the notion that the Auricula and the Polyanthus are of one and the same species, requiring similar treatment. They are certainly of two different natures, and require different kinds of soil and a different situation, in fact, altogether different treatment. The Auricula thrives best in a high, mountainous place, where pure air blows freely from all quarters, and at those times when it blows from the most favourable quarters—west, south-west, and north-west—they can scarcely have too much of it during three parts of the year. Not so with the Polyanthus. That grows, thrives, and blooms best in a low, somewhat shady, and not over-dry situation, where the ground is not pestered with red-spider, which is the worst and most destructive enemy the Polyanthus has, and which must be guarded against; for of a certainty where red-spider abounds, the Polyanthus cannot exist for any length of time. As to any remedy for destroying such pests, I have

never had the good fortune to find one, though I have tried many which were stoutly affirmed to be certain cures. Rather than grapple with this pest, I would advise my younger friends to do the best they can to select a situation free from red-spider.

The kind of soil I found to be the most suitable for the healthy growth and blooming of the Polyanthus was good sound yellow loam from an old pasture. When I could not obtain it from such a source in the early spring, I used to get from a neighbouring farmer a couple or three cart-loads from the headland of one of his corn-growing fields. This I had sifted through a $\frac{1}{2}$ -in. or $\frac{3}{4}$ -in. sieve. I then got a few barrow-loads of clean solid cow-dung from the cowshed, which was put into a large tub with water, and well stirred up, so as to bring it to the consistence of paste. A layer, 10 in. thick or so of the sifted mould was laid down, and on it a quantity of the liquid was poured; then another layer of mould, then liquid again, and so on till the lot was placed in a solid heap, in which state it was allowed to lie for three months or so, when it was chopped down, and thrown up into a fresh heap for another month or six weeks. By that time it was ready for use, either for potting Polyanthus or for the growth of Carnations and Picotees—*none better*. I can also assure Tulip-growers that this same preparation of soil will grow and bloom a bed of Tulips in first-rate character, where the air is pure, and situation anything near the mark.

In the earlier part of my Polyanthus-growing I had the plants stored through the winter and early part of spring months in a rather shallow wooden frame. Later on I had a frame built of bricks, which I found to answer better. I did not have it built so much above the level of the ground as the Auricula frames; it was raised three bricks in front and six at the back, and previous to placing the pots in it, I had the mould taken out to the depth of about two feet below the level of the ground; then, if practicable, I placed a quantity of lime-scrapes in the bottom, filling up with coal-ashes to about a couple of inches below the level outside—not higher, as the Polyanthus likes best a bottom where there is a little moisture, only the plants will require watching to keep them clear of slugs, earwigs, beetles, &c. In order to keep the plants clear from such pests, I used to lay traps to catch them. My trap was simple enough—an old broom-head with the bristles extracted; this I found to be just the thing for the purpose, for at break of day these pests will hide themselves in the holes in

the broom-head, if that be placed in any part of the bottom of the frame; and when taking off the lights for airing, the trap must be quietly and carefully lifted, so that in case any vermin are found in the holes, they may not slip back into the frame. Slugs will not readily leave their hiding-places, but beetles, earwigs, and the forty-legged 'twinge' will slip out, unless care be used.

I give the names of a few sorts of Polyanthus, which I looked upon as being the best at the time I was growing them. There may now be other good sorts of more recent date, which I have not had the opportunity of seeing; the few I mention here I can vouch for as being well up to the mark, and fit to take a respectable place on the exhibition-table. I shall name them in the order of merit, and venture to say that, so far as I have seen, Beauty stands A 1:—

Beauty of England (Summerscales).
Alexander (Pearson), the mother of the above.
Bang Europe (Nicholson).
Invincible (Cronshaw).
Exile (Cronshaw).
Cheshire Favourite (Sanders).
Princess Royal (Collier).
Elizabeth (Hepworth).
Lord J. Russell (Clegg).
George IV. (Buck).
Emperor (Turner).
Prince Regent (Coxe).

I have grown a goodly number of other sorts, but I believe the twelve above named are the best of the lot.—JOHN HEPWORTH, *Crosland Moor, Huddersfield*.

BERGAMOTTE ESPEREN PEAR.

 HIS is a medium-sized grey Pear, freckled over with dark spots from the shank to the crown, slightly tinged with pink on the sunny side, and shaped like a Winter Crassane. I have grown this Bergamotte for several years, and seldom found it fail in fruitfulness nor time of ripening in winter or spring. The last quality is often deficient in some late kinds of Pears, though highly spoken of. I mention this in particular, for it is grievous to grow Pears unavailable for dessert, especially at the time they are expected to ripen. Therefore I consider Bergamotte Esperen one of our best late kinds which seems to deserve better attention. It has the bergamot flavour, and frequently is more juicy than some Autumn Bergamots, and not mealy, like some other late Pears, for instance, the Winter Crassane. The Soldat Esperen, though it is a great bearer, seldom ripens or becomes juicy, even though grown in favourable seasons, yet this Pear is noticed in some catalogues as "a rich, sugary, melting kind." Need I say that all such statements in catalogues not only tend to mislead nurserymen, but are often the cause of disesteem of the gardener on the part of an employer?—J. WIGHTON, *Cossey Park*.





J. L. Macfarlane, del

Chromo Stroobant, Ghent.

Cherry Bigarreau Napoleon.

BIGARREAU NAPOLEON CHERRY.

[PLATE 465.]

No doubt, this is one of the best of the Bigarreau race of Cherries. It is remarkable not only for its excellence of quality, but also for its large size and the beauty of its appearance. It bears the synonyms of Bigarreau Lauermann, and Lauermann's Kirsche. The tree is hardy and vigorous, a prolific bearer, and suitable both for planting against a wall and as a standard, or to be grown under glass. Its fruit is large, heart-shaped, yellow, dotted with red; the exposed side changing to a deep rich crimson; the flesh firm, and full of sweet rich perfumed juice. It naturally ripens about the end of July or the beginning of August.

Our plate was drawn from specimens grown by Mr. G. T. Miles, the very successful gardener to Lord Carington, at Wycombe Abbey. We have to thank Mr. Miles for the accompanying remarks in reference thereto:—

“This extraordinarily fine variety is unquestionably the most magnificent cherry in cultivation. Like most others of the light-coloured section, its chief defect arises from its susceptibility to crack immediately it becomes ripe, unless the fruit is protected against the effect of rain and damp. To do this is cer-

tainly a slight digression from the ordinary routine in such matters, and will involve a trifle more labour and attention; but surely, to obtain a dish of such grand fruit in perfection as this particular variety supplies on either the dessert or exhibition table is worth an effort, and its presence there more than compensates for the time bestowed on securing this end. We give particular attention to this matter, and before the Cherries are fully ripe, we protect them by means of a sheet of tarpauling, from three to five feet wide, according to the height of the wall. This is fastened on the top of the wall over the tree, and kept up or down according to the requirements of the weather; and this meets the exigencies of the case. From special observations made in regard to this subject, we have come to the conclusion that an eastern aspect is the best for Cherries, of course excepting for having them late, and that it is most injurious to the trees to deeply cultivate the borders, in which the roots abound.

“The value of having Cherry trees on late walls, as a means of prolonging the season of this delicious fruit, is now more generally acknowledged, and as it becomes more known it will be more universally adopted. For this purpose, no variety will be found more suitable than the May Duke.—GEO. THOS. MILES,
Wycombe Abbey.”

NOTES ON PLANTING FLOWER GARDENS, ETC.

HAVE often thought that if gardeners would run their eye over the Flower Gardens under their charge, and record what plants had done well and been effective, it would be a help to many others in making arrangements for filling their beds and borders in the coming year.

We have here two Flower Gardens, or rather one is a parterre of flowers, and the other of foliage. Both are useful and pretty in their way. The flowers look best during July and August, but the foliage beats them hollow during September and October. Amongst the Flowers, commencing with *Pelargoniums*, I still like *Vesuvius* best in the way of scarlets; *Wellington* is grand, but hardly free enough; *Waltham Seedling* is excellent, beating *Stella*, and *Pioneer* is truly lovely. Of the pinks, I like *Pink Queen*, *Master Christine*, and *Amaranth*. *Lucius* is the finest bed in the garden; its pretty rosy tint may be said to be half-way

between a pink and scarlet. *White Clipper* beats *Madame Vaueher*. Of the *Ageratum*s, *Countess of Stair* is fine, and so is *Lady Jane*. Among *Calceolarias*, *Gaines's Bouquet* is best here. *Calceolarias* frequently go off because they are ill-used in winter. I strike my cuttings in charcoal-dust, and keep them in a cold pit till April, when they are pricked out at the bottom of a wall for a month or six weeks, and they never take the palsy or falling sickness either. I still grow *Verbena Purple King*, for it is a lovely colour; it wants the soil to be rich, and abominates pegs. A really good blue bedder is to be found in *Viola Perfection*. Strange to say, *Violas* do better in the north than here. I saw *Viola lutea* a foot high and quite a mass of blossom at Balmoral, but although I brought cuttings from this very bed, it does not do so well with me; the moisture and cool atmosphere of the Highlands suit it best. *Heliotropes* are still bedded here for their scent. Of

Lobelias I mean to grow three kinds this year—*L. Paxtoni*, *pumila*, and *Emperor William*; the latter is a splendid kind, which many affirm to be the same as *L. pumila magnifica*, and I really now think it is so; but be this as it may, it is, in my judgment, the best Lobelia we have.

The Foliage Garden must not be planted till the middle of June. Here amongst the *Pelargoniums* we grow *Maréchal MacMahon*, *Mrs. Pollock*, *Robert Burns*, *Black Douglas*, *Crystal Palace Gem*, and *Bijou*. I have arranged them in the order of their merit. Our Flower Garden is 400 feet above the sea, and very much exposed, so that the only two *Alternantheras* which grow well here, are *A. magnifica* and *A. amabilis*, and very pretty hardy kinds they are. The *Golden Feather Pyrethrum* is invaluable; it should not be sown too soon, or it will run to seed. *Veronica incana* is a silvery grey-leaved plant, and is very pretty and quite hardy. *Oxalis corniculata rubra* (*tropæoloides*) is very useful, with its coppery foliage, and is easily propagated. The best *Iresine* is *I. Lindeni*, but *Coleus Verschaffeltii Improved* is the better of the two, and they are nearly of the same colour. *Amaranthus melancholicus ruber* is in this way, and is a nice plant, if not raised in too much heat. *Echeverias* are all very good; the best is *E. Peacockii*. We grow *Sedum Lydium* and *S. glaucum*, and very useful they are. *Mentha Pulegium gibraltaricum* is a delightful green, easily propagated, and nearly hardy. *Mesembryanthemum cordifolium variegatum* and *Veronica variegata* both do well, and so does *Cerastium Biebersteinii*, which is much better than *C. tomentosum*. *Centaurea candidissima* is most useful.

I have many other plants in hand, such as *Euonymuses* of sorts, *Arabis*, *Thymus* of various kinds, &c., of the merits of which I will report to you next autumn, if all's well. We have one fine ribbon border which takes 6,000 plants, and which is planted in the following order, reading from the front backwards:—

1. Pyrethrum Golden Feather, yellow foliage.
2. Pelargonium Little David, scarlet flowers.
3. Pelargonium Bijou, white foliage.
4. Pelargonium Christine, pink flowers.
5. Pelargonium Stella, crimson-scarlet flowers.
6. Verbena venosa, purple flowers.

The border is shaded by a row of Tulip-trees, so that I am obliged to make use of these strong-growing things.—JOSEPH RUST, *Eridge Castle Gardens, Tunbridge Wells.*

NEW DWARF INDIAN AZALEAS.

OME two or three years since, Mr. Carmichael exhibited at one of the Royal Botanic Society's shows some seedling Azaleas of close dwarf habit, with very neat small foliage, and comparatively small flowers, one or two of which, in better condition than the rest—*Gem* and *Mrs. Carmichael*—were awarded First-class Certificates, as being likely to form useful decorative plants of small stature. They are understood to have been obtained by crossing *A. Stella* with *A. amœna*. We were much gratified the other day to see these novelties, under the influence of good cultivation, presenting a very charming appearance, and we feel convinced that they will prove exceedingly valuable as decorative plants for growing in small pots, and equally so for providing materials for bouquets, the flowers from their size being better adapted for making up than those of the large-flowered group.

The varieties, six in number, are in the hands of Mr. B. S. Williams, of Upper Holloway. The flowers are about $1\frac{1}{2}$ inch across, or in some varieties rather less, and the leaves are of the small obovate type seen in the small-flowered native Chinese Azalea *obtusa*. The varieties we noticed were as follows, all having the same neat character and close dwarf habit:—

Princess Beatrice: flowers rather small, pale rosy-purple.

Mrs. Carmichael: flowers rosy-purple, rather more rosy-tinted than *Princess Beatrice*.

Princess Maude: clear purplish-rose, the corolla segments oblong blunt emarginate, medium size.

William Carmichael: clear purplish rose, the flowers rather larger than in *Princess Maude*.

Lady Musgrave: flowers rosy-carmine, $1\frac{3}{4}$ inch across, the segments broad and slightly overlapping.

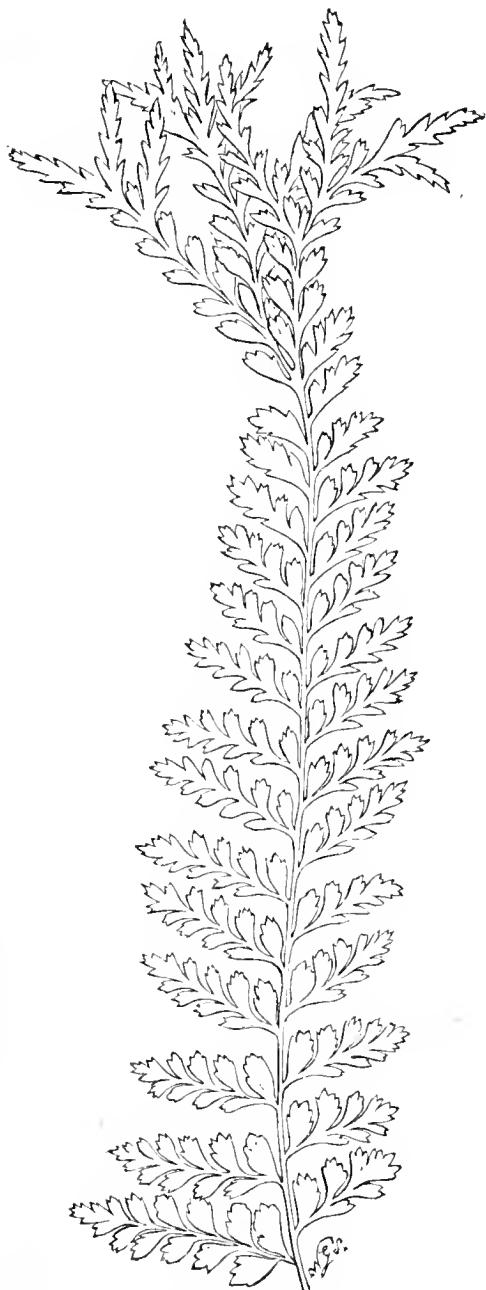
Prime Minister: flowers small, of a deep pink or peach-blossom.

Of these *Mrs. Carmichael*, *William Carmichael*, and *Lady Musgrave* have somewhat larger flowers, varying in colour; while those of *Princess Beatrice*, *Princess Maude*, and *Prime Minister* are smaller and more nearly resembling those of *obtusa* in form. The colours of all are very bright and cheerful, and for the purposes indicated we look on them as being very decided acquisitions.

Fit associates for the above would be found in the little Chinese Azalea *obtusa*, introduced by Mr. Fortune many years ago, and the double-blossomed Azalea *Rollissoni*, figured at p. 35, and recently acquired from Japan by Messrs. Rollisson and Sons.—T. MOORE.

MICROLEPIA HIRTA CRISTATA.

 We have here a fine acquisition amongst our tender exotic ferns, and one which will prove of great value as a decorative plant. The fronds grow to a large size, three to four feet in length, and are not only



MICROLEPIA HIRTA CRISTATA.

evergreen, but abundantly produced, the habit being free and vigorous. They are broadly ovate, tripinnate, and gracefully pendent, made up of numerous pinnae, which are lanceolate-oblong, broad at the base, and somewhat narrowed upwards, the apex, which is multifidly forked, forming a tassel of finely divided

segments. The pinnules are linear-oblong, obtuse, about an inch long, divided into several obovate decurrent segments, and the apex of the frond is multifidly eristate. The texture of the frond is herbaceous, and the surface both of the fronds, stipules, and rachides densely hairy. This will prove a very useful ornamental evergreen Fern, on account of its graceful habit, the fronds being of a spreading or arching style of growth. The drooping tassels hanging from the apex of the frond itself, and from the ends of all the pinnae, give it a very pleasing character, so that it is well adapted both for pot-culture and also for suspending overhead in baskets. It has been recently imported from the South Sea Islands by Mr. B. S. Williams, and is one of those Ferns which can be grown rapidly into an effective size and condition. We have also seen the same variety from other sources. Our figure is taken from the *Gardeners' Chronicle*.—T. MOORE.

TRANSPLANTING LARGE
VALUABLE TREES AND SHRUBS.

 ALL such plants should be prepared for removal, but forethought frequently is deprived of exercising the desirable preparation, because the alterations and improvements determined upon are so quickly put in practice after the conception of the arrangement, that there is no rest till it is all finished. Therefore, any plan that gives something like certainty of success in the immediate transplanting of large trees and plants is of considerable importance.

The system generally adopted is—the season before transplanting to dig all round at an equal distance from the crown or collar, smoothly cutting all the roots, which causes innumerable rootlets to spring into the dug-up soil; these rootlets, taken up with the ball of earth, ensure success. Trees moved without this preparation frequently are for years sickly specimens, owing to the want of a sufficient number of fine rootlets to gather the necessary nourishment to support so large a plant.

This reasoning, induced by a heavy job, called forth the idea of digging the ball of earth in shape of a parallelogram instead of round. This novel plan gives on two sides a set of long roots, with numerous rootlets un-

disturbed, that will support the plant in health, while the closely cut roots on the other two sides strike forth fresh vigorous young roots into the new ground.

My rule was—in moving a large number of Portugal laurels, evergreen oaks, a few hollies and Deodars—to take the length across the tree from the outside of the branches on the lightest side of the tree-top to the outside of the branches on the opposite side, the width being from five to six diameters of the trunk nine inches or a foot above the ground. This shape gives the advantage of grasping the whole mass of earth and roots within a home-made rough pair of timber pincers, the jaws of which are each a half box, not shorter than the block of earth nor more than half its width; these two binding all together tightly, prevent the shaking of the roots and earth asunder in transit. These trees were from twelve to twenty years old, and were all moved in February—a few in hard frost. Some leaf-mould was mixed with the earth that was put around them; they were all placed a little higher than the land, and after all was firmly trodden round and raked over, well mulched with half-rotten dung. Not a tree suffered more check than it would have done from preparation for future transplanting, and the second season all were in robust growth, and many full of flower and fruit.

I should have stated that in placing the trees, the heaviest side of the top should be put facing the stormy aspect, which causes the tree to grow more symmetrical.—PETER LOVE, 21 Queen's Road, Upton Park, Essex (in *Irish Farmer's Gazette*).

MARKET PLANTS.—III.

DRACÉNAS AND FERNS.

OLIAGED plants are largely in demand for market purposes, but it may be said to be essential that they possess handsomely marked foliage or an elegant habit of growth. The *Dracæna* and the Fern stand as excellent illustrations of these two qualities, and they are much grown in consequence.

In propagating *Dracænas*, a kind of frame or hot-bed within a stove is used. A great amount of bottom-heat and a moist atmosphere are required, and these are best secured by placing a small frame on the bed under which the hot-water pipes are conducted, with a glass lid lifting up and down. This is filled with fresh cocoa-nut refuse, and that only; it is of the very first importance that the cocoa-

fibre be quite fresh, and not that previously used for forcing purposes; and this is put into the frame to the depth of two or three inches.

The mode of converting the top of a *Dracæna* into a vigorous young plant, by suspending a small pot which encircles the stem just below the lowermost leaves, need not be set forth in this relation; but when this is done, the stem of the decapitated plant is used for raising cuttings, and it is cut up into a series of circular segments, each containing one or more eyes, and these are inserted in the bed, and barely covered from view. The brisk, moist bottom-heat soon causes these pieces to put forth shoots, which in their turn quickly make root, and then the rooted shoots are carefully removed from the piece of stem, and placed singly in thumb-pots and plunged into bottom-heat, and grown on into size as rapidly as possible. A segment of the stem will put forth from one and two to five and six, and even more plants. Young *Dracænas* are never over-potted; they are shifted into a slightly larger pot when necessary, and if the plants are well handled they will average from 15 in. to 20 in. in height in twelve months, and be proportionately well developed in width, and furnished with healthy leaves to the bottom of the stem.

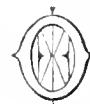
It is during December, January, and February that the great bulk of the *Dracænas* are propagated, and they are sent to market a fortnight or so previous to Christmas, and then on till the stock is exhausted. When the plants are taken into an intermediate house to grow on into size, the atmosphere is close and comfortably warm; in the autumn a moist atmosphere is maintained, but as autumn fades into winter, they are kept somewhat drier, as damp at that season will spot and disfigure their leaves. The old *D. terminalis* is largely grown for market; it has a sturdy growth, which causes it to stand well, and it colours quickly and effectively. *D. Cooperi* and *D. rubra* are also favourite varieties, while *D. regina* will also be used for market-growing when it becomes plentiful enough. The great bulk of the plants are sent to market in 48-sized pots, and they are then, when well done, perfect examples of successful cultivation.

FERNS are so largely grown that they may be counted by the thousand. The largest bulk

of the plants is sent to market in April, when they are quite young and in thumb-pots. They are freely bought up to be grown on into size. The best kinds for market purposes are *Pteris serrulata* and some of its crested varieties; *P. argyraea*, *cretica*, and *cretica albo-lineata*; *Adiantum furleyense*, *cuneatum*, *gracillimum*, *formosum*, *Gheisbreghtii* (*scutum*), and *trapeziforme*; *Nephrodium molle* and its crested forms; *Lomaria gibba*, *Phlebodium aureum*, *Nephrolepis tuberosa*, and *Blechnum corcovadense* and *brasiliense*. Ferns are employed in a thousand ways, and the London and country trade buy largely of small plants of the foregoing, and use them when they are of sufficient size.

The houses in which Ferns are raised from seed—and all are propagated in this way, with the exception of *A. furleyense*—are so constructed as to be half-way down into the earth, as they are intended to be entered only by the workmen. A warm, moist atmosphere is essential, and it is best secured in these sepulchre-like erections, which are small and narrow. Here, as in the case of propagating *Dracennas*, small frames are used for raising the seeds. The spores are sown in October and November, in well-drained 48-sized pot, filled with a light peaty soil; on the top of this the spores are thinly laid, and a bell-glass placed over each. The consequence is the young plants grow quickly and plentifully. In the case of some sorts, a little fine mortar rubbish is strewn over the surface of the pots, and this materially assists growth. As soon as the spores germinate, little tufts appear, and these are divided as soon as it can be done, and put in other pots; and then when the little plants are large enough they are put singly into thumb-pots, and grown on with the greatest rapidity. *Adiantum furleyense* is increased by division of the roots, and a large stock has to be got together before propagation can be extensively done. The best time to divide is in winter and spring. The pieces are put into small pots, plunged in a quick bottom-heat, and grown on. By means of successive batches this fine maiden-hair is marketed nearly all the year round. Some growers produce *Gymnogrammas* from seed, but they require very delicate attention during the winter in a seedling state; they are what are termed bad doers, and are very impatient of moisture, but when the right method is hit upon, success is the rule, and failure the exception.—R. DEAN, *Ealing, W.*

VILLA GARDENING FOR APRIL.



NE of our poets has written of April :—
“ New, Preteus-like, smiling, and new in tears,

Comes cheerful April, mingling hopes with fears.”

This is very true, for the experience of the few past years has taught gardeners that April is a capricious month, and that in place of the soft, warm rain-drops, there is often a visitation of keen frosts and cold biting winds. Springs are now so uncertain as to require on the part of the gardener a constant watchfulness.

GREENHOUSE.—Growth is now the order of the day. The clear bright sunlight and lengthening days call plants into activity. Hard-wooded plants that have done blooming, such as *Ericas*, *Epacris*, &c., should be repotted, and the plants rearranged in as attractive and orderly a manner as possible. After the plants are repotted, they should stand for a few days before being watered, and then it needs to be done thoroughly. Till then less air is required, owing to the inactivity of the roots, but syringing two or three times a week when the weather is fine and warm will be beneficial. As little fire-heat as possible should be applied, shutting up the house between four and five o'clock, when the atmosphere is nice and warm. What are known as Soft-wooded plants are growing fast. Large-flowered *Pelargoniums*, for instance, are moving rapidly, and need to have the shoots tied out as they grow, and kept quite free from green-fly. In giving air, care should be taken not to open the windows on the windy side, especially when north and easterly winds blow. Cold draughts are injurious to the plants, and any one walking through the houses of a market-grower of plants will be struck with the care taken to exclude cold currents of air. *Pelargoniums*, *Fuchsias*, and other quick-growing plants that it is not desirable to shift, will be much benefited by stirring the surface and top-dressing with some good soil.

COLD GREENHOUSE.—During cold weather, when the temperature falls low of a night, and sharp frost may set in before morning, watering should be done not later than mid-day, so that the shelves may dry before night. This applies more particularly to tender plants, but it is a rule that should be applied to hardy plants also. Of plants now flowering in a cold greenhouse, we may mention the brilliant scarlet *Anemone fulgens*, *Primula denticulata*, *P. pulcherrima*, and *P. purpurea*, the last by far the finest, but all three most useful for cutting from; the pretty white *Primula nivalis*, *P. minima*, *P. marginata*, and *P. intermedia*; *Triteleia lilacina*, a lovely subject for a cold house; *Crocuses*, *Polyanthuses*, *Alpine Auri-culas*, *Narcissuses*, *Zonal Pelargoniums*, and some others. The green-fly is certain to be troublesome, but it is best to brush them

off, rather than risk injury to the flowers by fumigating with tobacco-smoke. Those who grow a few *Auriculas*, both show and Alpine, will find the cold greenhouse a good place to flower them in, shading the plants from the sun during mid-day when it is hot and bright. The beauty of many nice plants may be prolonged by placing newspapers next the glass as a screen from the sun.

FLOWER-GARDEN. — The propagation of plants for bedding-out, and for the general decoration of the garden, should now be pushed on. *Lobelias*, *Pyrethrum Golden Feather*, *Phlox Drummondii*, *Marigolds*, *Petunias*, *Pentstemons*, *Stocks*, *Asters*, and other things so much relied on to make the flower-garden effective, should be through the soil; and as soon as the plants are large enough to handle without injury, they should be pricked off into pans, pots, or shallow boxes—the last one to be preferred—so as to be grown into size for hardening-off in May. All that can be done to get them into size and of a sturdy growth should be attempted. *Cockscombs*, *Balsams*, *Humea elegans*, *Lophospermums*, *Maurandyas*, and other tender plants must be kept in heat, but at the same time, not to a degree to cause them to be drawn. It is best to put them on the upper shelf of a greenhouse, which is always a warm place, after they are pricked off, and room is wanted in the hot-beds. *Half-hardy Annuals* of a robust character may be sown in the open border at the same time as the hardy annuals, but sowing in some fine light rich soil. April is a very busy month in the Flower-garden, and a hundred things demand the attention of the Villa-gardener.

COLD FRAMES. — These now fulfil two good purposes—they are the feeders to the cold greenhouse, and they come in very handy indeed for hardening-off tender plants as the weather admits of their being placed in them. *Lilies* breaking into growth should be repotted; and it is best not to put them into too large pots, but when established in small pots they should have some manure-water to assist them. Those who grow *Ixias*, *Sparaxis*, *Babianas*, *Tritonia crocata*, and some of the choice *Cape Bulbs* should now take them into the greenhouse, to assist flowering. A little warmth at flowering time proves of great assistance, but the plants should not be in the full flood of the sunshine, and so in danger of suffering from draught. The watering of subjects in the cold frame must not be neglected, as *Phloxes*, *Pentstemons*, &c., to be planted in May to flower in the summer need to be kept growing. Even yet a little covering at night will be found of service. The wind is in the north, and may remain there during a good portion of April.

KITCHEN GARDEN. — Seed-sowing should be proceeded with and completed as the weather

affords an opportunity. *Cauliflowers* and *Lettuces* wintered in frames should be planted out; and no time should be lost in getting in the main crops of *Potatos* and planting *Jerusalem Artichokes*. Beds of herbs should now be made. *Broccolis*, *Cabbages*, *Cauliflowers*, *Lettuces*, *Savorys*, *Kales*, *Beet*, *Carrot*, *Celery*, *Parsley*, and successive crops of *Mustard* and *Cress* and *Radishes* should be got into the ground. Dry weather is the time to sow, and if the seeds have to lie in the ground waiting for rain, they will get no harm, if undisturbed by birds. The hoe needs to be used among growing crops; the cold winds of March dry and cause the surface-soil to erack; then the hoe should follow, to loosen the surface ready for the gracious rain.

FRUIT GARDEN. — *Apricots* on walls are in full blossom; *Peaches*, *Nectarines*, *Plums*, and *Pears*, are also getting well into bloom. Could we only get warm southerly breezes and bright sunshine, a good fruit-harvest might be anticipated. A few sprays of Spruce Fir put in among the branches, taking care not to injure the blossoms, will be of service, in the place of any better mode of protection. A judicious thinning-out of the blossoms is of value in assisting the setting of the fruit-crop. Newly planted fruit-trees will be greatly benefited by mulching the roots with a good dressing of manure and leaves. Any grafting should be put in hand without delay.—*SUBURBANUS*.

A NOTE ON SWEET-WILLIAMS.

JUST a few brief lines on the Sweet-William, which is one of the flowers I last took a fancy to. Over twenty years ago I had a few seeds presented to me by my friend, the late Mr. Hunt. These I sowed, and in the first blooming season I looked upon these varieties as being something grand. From that time I have kept on sowing and trying to improve them; but taking Mr. Hunt's advice, I have each year, from the first, made away with all the inferior ones as they came into bloom, and retained only a few of the best to take seed from. I have thought that I obtained improved forms each year, but the varieties of last year eclipsed all I had ever seen previously, and I had to notice at least a dozen of most superb properties. Two in particular are quite a jump over all which I have previously seen. One has a most brilliant scarlet-red ground-colour, with a very dark distinct rim; the other has a pure white ground, with eye and rim of most brilliant colours. Both these sent

up bold trusses of large pips on long and strong foot-stalks, which served to show the flowers off to advantage. Would not our lamented Mr. Hunt have been pleased to have seen these novelties? The worst of the matter is that at present I do not possess much stock of either of them. Of the red-ground sort, I could only manage to get two layers, and very few seeds; of the white-ground sort, I got three layers, but the few seeds I took from it are small and light, so that I am doubtful of their vegetating.

I have got a fair quantity of seeds, taken from some of the other choice sorts, and I can accommodate any floral friends who may wish to have some at a trifling expense; while, should I be spared, I hope to be able to supply during the autumn or in the spring of 1879, either plants or seeds from the other two superb varieties.—JOHN HEPWORTH, *Croslan Moor, Huddersfield.*

GARDEN GOSSIP.

THE MEETINGS OF THE ROYAL HORTICULTURAL SOCIETY during the present year have fully maintained their interest, each having been marked by a display of objects of considerable value and beauty. There is no questioning the fact that these minor gatherings, which happen to meet the requirements of horticulturists, do very much to keep alive and to bring to a focus the horticultural spirit which is by no means lacking amongst the general public; and so long as these are well managed, they will always afford a nucleus for further development. At the January meeting, certificates were awarded to Mr. Williams for *Dendrobium superbiens*, a fine Australian plant allied to *bigibbum*, and for *Microlepidia hirta cristata*, described at p. 59. Mr. Bull received similar awards for two handsome *Zamias*, *Z. corrugata* and *Z. lucida*. The most interesting novelties shown on February 19 were Mr. Williams' *Primula sinensis fimbriata coccinea*, noted at p. 48; *Hæmanthus rupestris*, a fine West African bulb, with purple-mottled scapes, and globular heads of pure orange-red flowers, shown by Mr. Bull; and three splendid *Cyclamens*, *White Beauty*, from Mr. James, a pure white of fine form; *Rosy Morn*, pale rose, from Mr. H. B. Smith; and *Roseum grandiflorum*, one of the giant race, with rosy-pink flowers, from Mr. Hayes, —all these receiving certificates. March 5 brought forward *Azalea William Carmichael*, one of a set of pretty dwarf-habited hybrids now in the hands of Mr. Williams, noted at p. 58; three hardy *Primroses*, *Scott Wilson*, *Ealing Crimson*, and *Octoroon*. The first, from G. F. Wilson, Esq., is of a new colour, a bluish-purple; the others, from Mr. R. Dean, are crimson and maroon respectively. The most interesting subjects shown on March 19 were *Magnolia Halleana*, a free-flowering species from Japan, with double white flowers, with recurring petals, like white Water Lilies; and *Hyacinth, King of the Blacks*, very dark, with fine bells and spike. These, with *Bollea Patinii*, all from Messrs. Veitch and Sons, were cer-

tified, as were also Mr. Cutbush's *Hyacinth Grand Master*, with large porcelain-blue bells; Mr. Barr's *Narcissus incomparabilis Leedsii*, with an orange-rimmed cup; and Mr. Mills' *Odontoglossum parviflum*. Some beautiful groups were shown on each occasion.

— THE Schedule of the NATIONAL AURICULA SOCIETY (Northern Section) is now issued, and sets forth the prizes to be competed for at the forthcoming Exhibition, which is to be held in Manchester, in connection with the Show of the Botanical Society, in the New Town Hall, on April 30. There are sixteen classes, and numerous prizes. The Alpine Auriculas are separated into yellow-centred and white-centred, which appears to be a very proper sub-division. Schedules may be had of the hon. secretary, Rev. F. D. Horner, Kirkby Malzeard, Ripon, to whom also applications for exhibition-labels should be made not later than April 25.

— OF NEW Books, we may mention the issue of a third and cheaper edition of *Robinson's Hardy Flowers* (Macmillan). It is a useful book, full of information concerning the beautiful hardy perennials, which are now receiving a large share of popular sympathy.—*Wood's Good Gardening* (Lockwood) has reached a second edition, and contains much elementary information likely to be useful to amateurs.—*Hooper's Gardening Guide* is a useful epitome of information concerning the best popular flowers and vegetables, with very numerous illustrations, and a calendar of garden work adapted to meet the wants of amateurs.

— WE have been favoured by Mr. A. G. More with an opportunity of examining a frond of *ATHYRIUM FILIX-FEMINA FRIZELLÆ*, gathered recently at Carrabagh Fanet, county Donegal, by Mr. H. Chichester Hart, son of the Vice-Provost of Trinity College, Dublin. Miss Frizell's Lady Fern, a most interesting deviation from the normal type, and one which has not only been perpetuated from spores, but has also given birth to other sports, was previously only known as having been gathered in a wild state in the county Wicklow.

— THAT ROSES should play a conspicuous part at the MARRIAGE OF LORD ROSEBURY is appropriate enough, but even a ROTHSCHILD might have doubted the possibility of obtaining 3,000 Tea-scented rose-blossoms in March. Nevertheless, says the *Gardeners' Chronicle*, the feat was accomplished by Mr. Wills, whose energy and resources seem never to fail. The pretty and becoming idea of surrounding the bridal prosents with a setting of Roses, Orchids, Ferns, &c., is said to have originated with the bride herself.

— THE use of CORK BLOCKS FOR ORCHIDS is condemned by Mr. Anderson, of Meadow Bank, on the ground that after a year or two the corrugations of the cork sadly interfere with the progress of the roots, which are partly strangled in their elongation, and in some instances to such a degree as to cause complete, or almost complete, cessation of growth, while roots that get among the potsherds with a clean face continue to grow on satisfactorily, keeping up the balance of continuity between themselves and the stem and leaves above the surface. He adds:—"The longer my experience with it extends, the more I see the baneful effects of it upon general orchid-culture."

— **T**HE beautiful *SOPHRONITIS GRANDIFLORA*, or rather its more brilliant scarlet companion, *S. COCCINEA*, is growing with remarkable vigour upon virgin cork in the collection of orchids in course of formation by Mr. A. B. Stewart, of Rawcliffe Lodge, Langside, Glasgow. The roots of the Sophronitis are small, and thus escape the injury stronger-rooting kinds sustain on this material. Moreover, it grows in the coolest of temperatures, and is surfaced with sphagnum. No finer sight than this plant could any one see about December. Apart from all this, Mr. Anderson advises to use as little cork as possible, and to employ either baskets of wood—teak and mahogany being the best—or basket-pots well prepared as to drainage, in which eases the general success will unquestionably be greater.

— **Q**UEEN of the most distinct of evergreen oaks is *QUERCUS AUSTRIACA SEMPERVIRENS*. Unlike the ordinary evergreen oak, *Quercus Ilex*, it has large foliage, resembling that of the British oak, and which retains its bright green colour when those of other oaks are perishing on the branches or decaying on the ground. *Quercus austriaca sempervirens*, which is grown by Mr. R. Smith of Worcester, may be regarded as an evergreen English oak of a very hardy and ornamental character.

— **M**R. D. Wilson, the gardener at Castlehill, the North-Devon seat of Earl Fortescue, utilises BACK WALLS FOR GROWING GRAPES, by training his vines so as to cover one-third of the lower part of the front roof all over; from this point he leaves a space of about two feet free from leaves between each vine to the top of the house, so that the small sacrifice of space made in the front-roof trellis may give light and sun to the back wall, which thus becomes available for training, and more than compensates for the slight decrease of roof-space. The whole of the house below the vines, moreover, becomes available for growing any sort of fruit-trees in pots, or any of the numerous varieties of palms, or other fine-foliaged plants. To grow grapes on this system, the front vines must be planted somewhat wider apart than usual, say, two instead of three, that is, about one vine to every one and a half rafter. The two end vines should be planted at the two extreme ends, in the usual way. The back-wall trellis should be at a distance of 15 in. from the wall, in order to prevent the bunches from rubbing and to give room for development. The unsightly back walls are hidden with green leaves and fruit, which, together with the plants above mentioned, greatly improve the appearance of a viney.

— **U**NDER the name of *EUCALYPSINTHE*, a new preparation from *Eucalyptus*, is announced from France. This liquor is said to have been obtained by distillation from the leaves, and to be at once grateful to the palate, exhilarating, and not only quite harmless, but possessing many useful medical properties. This new beverage appears to be largely made and consumed in Marseilles, and it is thought that it will possibly soon become as popular as absinthe, and probably to a great extent take its place.

— **T**HE best time to apply FIRE-HEAT TO RIPEN GRAPES, writes a correspondent of the *Journal of Horticulture*, is during the day.

In dull days raise the temperature to 65° or 70°, giving a little air on at top and bottom. Let the fire go very low at night, when the house is dark, and little air is being admitted. When there is only a bright day once or twice a week, do not let the fire go out because it is fine, but, on the contrary, keep the fire as strong as on a dull day, give more air, and let the temperature rise to 80°, 85°, or even 90°. This is the time they will colour quickly, and not only colour, but acquire flavour, which is more desirable than a fine appearance. Treated in this way, it is surprising the progress grapes will make towards maturity in three or four weeks. Of course, when day after day is bright and warm, it is unnecessary to use any fire-heat. Then do not admit too much air. Always keep the heat up about 80° during the day, and close the ventilators early enough in the afternoon to maintain a temperature throughout the night of 65° or 70°. These are the best ways of working the heat; but other assistance may be given.

— **V**ARIEGATED-LEAVED ROSES are few in number. A year or two since Madame Rothschild threw out a shoot with variegated foliage, which, being worked, has remained constant. This occurred at Bray, near Dublin. It has been asked whether such a phenomenon has been observed before, to which it must be replied that Mr. E. J. Lowe exhibited one some years since.

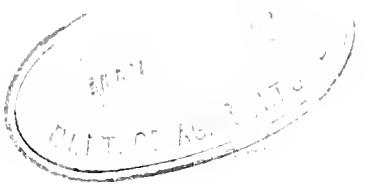
— **M**MR. FRÉMONT recommends, in order to KEEP CUT FLOWERS FRESH, the use of a solution of five grammes (about one-sixth of an ounce avoirdupois) of chlorhydrate of ammonia or sal ammoniac in a litre (not quite a quart) of water. After numerous experiments, he finds that the flowers keep fresh for a fortnight if the stalks are inserted in this liquid.

Obituary.

— **R**EV. ANDREW BLOXAM, one of the best known of British botanists, died on February 2, at Harborough Magna, Warwick, at the age of 76. Mr. Bloxam's study of the British flora extended over more than 50 years; he was one of the earliest and most successful students of *Rubi*, and published several papers on this genus. He studied the fungi with great assiduity and success, and his large collection of them was acquired a few years ago by the British Museum.

— **M**MR. GEORGE HOLMES, who was for over 30 years gardener at Hardwick Hall, near Chesterfield, the seat of the Marquis of Hartington, died on February 3, having attained the ripe age of 88 years. He was well known in Derbyshire for his extensive knowledge of herbaeous plants, of which he made a good collection at Hardwick, which place he left, with a pension, about five years ago.

— **M**MR. SAMUEL WOOLLEY, of Cheshunt, died on February 5, at the age of 57. He commenced his gardening career as a journeyman under Mr. Williams (father of Mr. B. S. Williams), in the service of the late John Warner, Esq., of Hoddesdon. About 25 years since he was appointed gardener to the late H. Bellenden Ker, Esq., of Cheshunt, and for several years was a most successful exhibitor of Orchids and Ferns at Chiswick and Regent's Park. When Mr. Ker left Cheshunt, some years since, Mr. Woolley took some portion of the garden into his own hands, and commenced business as a grower of cut flowers for market.





New Dwarf Candytufts.

1 Dwarf Rose-coloured 2 Dwarf White.

NEW DWARF CANDYTUFTS.

[PLATE 466.]

THE New Dwarf Candytufts represented in our plate, have, with one or two other varieties, been recently introduced by MM. Vilmorin-Andrieux et Cie., of Paris, under the name of *Thlaspi hybride nain rose*, and *nain blanc*. They are in reality very dwarf tufted-growing and highly-floriferous forms of *Iberis umbellata*. The habit of growth is shown in the small uncoloured figure in our plate. These hybrid Iberises are said to form a new race which is of the first order of merit; and this position the two varieties we have selected for illustration fully maintained last year at Chiswick, where they were grown from seeds contributed by MM. Vilmorin, and where they were awarded first-class certificates.

The following are the descriptions printed in the Report on Annuals grown at Chiswick, 1877, published in the *Journal of the Royal Horticultural Society* (v. 42):—

“*I. umbellata nana rosea*: height, 9 inches; umbels very large and flat; petals broad, white, tinged with rosy-pink. A novel and very effective variety.

“*I. umbellata nana alba*: height, 9 inches; umbels large; the petals broad, pure white. A very showy, distinct, and splendid variety.”

These were the only two certificated out of fifteen kinds of Candytuft grown for trial, their superiority being so distinctly apparent. Being hardy free-blooming annuals, as suitable for the smallest as for the largest gardens, we have no doubt they will become highly popular, as they deserve to be. The plants branch from the very base, forming a corymbose tuft of branches only a few inches high, each branch being tipped by one of the showy broad-petaled umbellate flower-heads. The white is valuable for its density of growth and purity of colour; the rose-tinted one for its novel and beautiful colour in addition to its dwarf tufted growth. Our descriptive notes run thus:—

Fig. 1. IBERIS UMBELLATA NANA ROSEA.—Height 9-10 inches, densely branched, forming a flat head of numerous corymbs of flowers; branches stout, erect, crowded, each bearing a succession of flower-heads; leaves alternate, linear, lanceolate, with a depressed central rib. Flowers in dense flat corymbose heads, the individual blossoms large, unequal-petaled as in the type, of a beautiful soft rosy-pink. Quite a new colour amongst the annual Candytufts, and very chaste and pleasing.

Fig. 2. IBERIS UMBELLATA NANA ALBA.—Habit, stature, and general character as in the former. Flowers and flower-heads large, pure white, very showy. A really useful acquisition.—T. MOORE.

THE REV. G. JEANS ON THE PHILOSOPHY OF FLORISTS' FLOWERS.—II.

“ON my last, I disposed of the first of the three forms of objection in which the charge of uselessness is ordinarily brought against the system of fancy flowers.

“II. The second objection admits the existence among us of a systematic standard of excellence, not the mere creature of caprice, but repudiates it as bad, on the ground that to admit any such external and common standard at all, it not being founded in nature, is unnaturally to cramp the freedom of taste existing separately and independently in every one. And further, because, by creating a conventional fastidiousness, it restricts instead of augmenting the pleasure derivable from flowers, and fixes our admiration rather on effects produced by art, than on the genuine beauties of nature.

“This form of objection, or some portion of it, is most frequently used by those who are naturally capable of the highest degree of discrimination, both of beauties and of defects, in such matters,—the ladies; and therefore I am not without hope that when I have shown them that their fears are groundless, I shall

enlist heartily in our cause some of the ablest supporters of this really interesting science. And that the objection, though specious and less transparently unsound than the former, is wholly imaginary, might not unreasonably be inferred, from the universal habit of florists perversely to agree in preferring their bondage to liberty; while yet they ever become more interested in their pursuit, the more they occupy themselves in it, and at the same time continue to retain their relish for a hedge Violet or a Primrose.

“Those who plead for ignorance, even though it be ignorance of the properties of a Pink, are presumptively in the wrong. Nor will the presumptive evidence in this instance mislead us, for the objection assumes as true what I hope to show is unfounded:—(1) That there is no external standard of floral excellence in Nature, but only in the capricious taste of each beholder; (2), that therefore the established system is of the florist's *making*, not of his *finding* ready made for him; (3), that to be bound by it, is to diminish the natural pleasure beneficently given us by the Creator in the works of his creation.

" 1. With regard to the first assumption, the principal object of these papers is to trace out from nature, as I hope to do in a subsequent one, that standard which is alleged to have no existence; for there certainly is an external standard of perfection, and that in every species of flower, even though we should never reach it in practice, to see it; because care and cultivation uniformly develop certain qualities, differing in each species, which are only dimly, and perhaps not at all, seen in their wild or natural state. And in those kinds which are technically called florists' flowers, or such as are capable of great diversity in their varieties, by a judicious use of the method of hybridising, fresh varieties are still produced, more and more developing those qualities in the same direction, and pointing to a yet invisible standard of what, if ever reached, would be the perfection of that particular species.

" 2. Therefore it follows, that if florists do not unwisely depart from the standard indicated in nature, their requirements are not their own, and they are not answerable for any alleged consequences of their art. It is not they who put restrictions on the admirers of natural beauties, if any such restrictions exist (which, however, they do not), but not even for the appearance of them are they answerable. The work of the florist is simply to follow whither nature leads him, selecting always that track in which there is the greatest promise of success; and on his judgment in never departing from this, and in using the best means for securing the accomplishment of his desires, depends the correctness of his practical science.

" And though mistakes have, of course, been made, and will be made again, in the endeavours after advancement in each particular object of our culture, yet these still become fewer as progress is made in developing the natural powers and characteristic excellences of the plant, whereby the philosophy of its improvement is seen; and we do not work in the dark, because there *is* a system of such development in nature, and a definite point of perfection, the constant approach to which constitutes improvement in each species. And as this is effected by crossing the seed of those varieties which have shown respectively the greatest advances in some particular quality, it is plain that there is a substantial truth in the phrase common among florists,—‘*a high-bred flower.*’

" 3. As to the third and last assumption,—namely, the hardship of being deprived of the power of admiring a wild Pansy, and so of losing half the pleasure designed by the Creator,—the matter is not quite fairly stated. I do not think florists generally despise wild flowers in their proper place; with myself, I know the very reverse is the fact. I take much more pleasure in them now than I did before I paid attention to their cultivated varieties. And further, I think it will be found that a wild Pansy will be tolerated, and even cherished, by a florist, where *a badly cultivated one*, though much in advance of it in respect of properties, would be consigned with disgust to the pit, as a weed.

" Yet it is frankly to be admitted that an untutored eye may delight in a cultivated specimen, which to the more deeply versed, and therefore fastidious, taste of a connoisseur, would convey unqualified distaste. But that is no more an argument that a person must sacrifice his pleasure in flowers by learning to cultivate them, than it is an argument against learning the art of painting, lest the student should lose his admiration of the signs in the streets; or the art of music, lest he should cease to be pleased with the organ of an itinerant. The same argument, indeed, is equally available, and has been often used against all civilisation generally, and every particular part of it. The fact is, that we are so constituted that our onward progress in everything must be clogged with such accompaniments, and he who would have it otherwise forgets that he is in a world of probation, and discipline, and hardness. We are urged forward only by the goads and spurs of our wants. But who ever regretted the introduction of coffee from Arabia, tea from China, or muslin from India, because the use of these things is inseparably connected with disgust at acorn diet, and at the homespun manufactures of our ancestors? The refinement of our pleasures, in changing their objects, does not necessarily abridge them. Nor, though it were sure to introduce a corresponding loss at the other end of the scale, would it lessen by a hair's-breadth the sum of human enjoyment, while assuredly it is capable of a beneficial effect in humanising the man. And therefore I think ladies especially should pause before they find fault with a pursuit which may, in its degree, become subservient to one of the great ends they themselves are destined to fulfil on our behalf. *Iota.*"

DIEFFENBACHIA SHUTTLEWORTHII.

 HIS very distinct and strikingly hand-some stove-plant has been recently imported from the United States of Columbia by Mr. Bull, of Chelsea, through his collector,

Mr. Shuttleworth, after whom it is named. It is perhaps one of the handsomest of all the Dieffenbachias, and certainly one which is so markedly different from the ordinary blotched-



DIEFFENBACHIA SHUTTLEWORTHII.

leaved sorts, that place could be found for both types in even a moderately small collection. It has the erect but compact habit of *D. Bausei* and its allies, the stem being stout, fleshy, erect, and of a palish-green colour; the leaf-stalks also are erect, green, marginate, and sheathing the stem in the lower half. The blade of the leaf is spreading, oblong-ovate or lanceolate, a foot or more in length, and four inches broad, of a

bright green colour, the costa ivory-white, with a band of silvery-grey variegation on either side, about half-an-inch in breadth, breaking outwards into a feathered and freckled margin. The strong contrast is remarkable and exceedingly beautiful, the dense leafy habit of the plant, moreover, and the consequent abundant surface-coloration which it presents rendering it strikingly bright and effective in its appear-

ance. Owing to the more elongated outline of the leaves, too, the foliage appears less heavy than in some other sorts, while it is sufficiently large to assume a bold and ornamental character.—T. MOORE.

FRUIT-CULTURE.

SITE AS AFFECTING FERTILITY.

Doubtless a good many fruit failures originate in the unnatural divorce between site and fertility. Nature has obviously bound these two together to a great extent, but they have been put asunder through the mere convenience, ignorance, or caprice of planters and planners. There are fashions in such matters, as well as in ploughing—and in bonnets. The fashion of late years has been as far as possible to hide kitchen-gardens and orchards, as much as may be, out of sight. Hard-and-fast lines have been too often set up between the domains of utility and ornament, in the disposing of the demesne, which have practically limited the selection of sites for fruits to the narrowest limits. Such lines of demarcation are as far removed from good-taste as they are inconvenient in practice. Everything useful or necessary about a demesne is also or may be made ornamental. True art is an exhibitor, not a hoarder, nor a hider of beauty; and this rule is especially applicable to fruit-gardens and orchards. The old landscape gardeners knew nothing and cared less of the modern canon of beauty, that requires the concealment of every utilitarian object, and is too fastidious to endure the sight of a brick, unless it is dabbed over with stucco; or of a kitchen garden or orchard, unless hidden in a hole, and further emasculated and enfeebled by an impenetrable blind of trees or shrubs. Who shall calculate the fruit-failures that have thus arisen from the false taste that demanded the concealment of utilitarianism from the window of the mansion? The lowest ground has often been chosen to assist in hiding or planting out fruit-gardens. The consequence has been that the cold air has rolled down to the lowest sites with as much certainty as water finds its level, and the frosts have blasted the blossoms as surely as the butterfly finds the flower, or the bee the honey.

Next to this mischievous mania for concealment, the desire for shelter has proved the

greatest obstacle to the selection of the most fertile sites for fruit-trees. Shelter in moderation, of the proper sort, at the right place, is a good thing, but an excess of shelter means simply weakness, and that renders destruction more easy. Low-lying valleys, especially if carefully sheltered with living screens of considerable density, also expose fruit-tree blossoms to a new danger—that is, a still atmosphere. The more placid the air during frost, the sooner and the more completely are the plants or trees emptied of their heat. Just as a breeze hinders the surface of water from freezing, by intermixing the warmer water of a lower level with the colder directly in contact with the air, so a gentle breeze in the atmosphere intermixes the warmer with the colder strata, and thus conserves the heat of the trees, and saves their blossoms from destruction by frost. Hence the importance of securing an elevated site agitated by any passing zephyr, rather than a sheltered valley—stagnant as sheltered—in which the frost is intensified by the stillness.

From this it is obvious that a certain measure of elevation and exposure in fruit-tree sites is favourable to fertility, and this is abundantly proved by experience. Of course it is easy to go to excess in either. No one would advocate the cultivation of superior fruit on a high mountain-top, nor in the teeth of the east or north wind, but by "elevation" is meant a moderate altitude, ranging from fifty to two or three hundred feet above the water-line in the immediate neighbourhood. In such positions, with the force of prevailing winds shut out by yet higher grounds or lining-screens, fruit-trees will generally prove more constantly fertile than on lower grounds. Here, too, the local site is of much moment. A northern outlook, unless for the hardiest fruits or in the warmest localities, should never be selected. I know kitchen gardens that have many crops, and have their fruits annually much lowered in quality, and their whole produce retarded for a month or six weeks every year, by inclining to the north. Neither is an eastern incline of the ground or site to be preferred. The old horticulturists were fond of eastern sites for their orchards. It is one of the most delightful sights in nature, an orchard in full bloom, lightened up into a glow of beauty by the

rising glory of the morning sun ; but how often is there death to the fruit grown in these early morning splendours ! The warmth of the sun treads on the hardened heels of the frost, and transforms their crystallised purity and beauty, into sheer blackened masses of death and decomposition.

By choosing for the trees a more southern, south, or western site, such risks of rapid thawings, which are at least as destructive to fertility as severe freezings, are reduced to the lowest limits consistent with the securing of a maxi-

mum amount of sunshine and warmth for the setting of fruit-blossoms, and the swelling and finishing of the fruit. It is on this account that sites even a few points north or west are often more fertile than those south by east.

But sufficient has been written to show the importance of the subject, and perhaps to direct more careful attention to it ; for there can hardly be doubt that site is often more potential than capital, labour, or skill in commanding or perpetuating fertility.—D. T. FISH,
Hardwicke House, Bury St. Edmund's.



ITALIAN VIOLETS.

OME time since, says our contemporary, the *Gardeners' Chronicle*, whence we borrow the illustration, "we received, through the kind intervention of the Marquis Corsi-Salviati, specimens of Violets, blue and white, from Count Savorgnandi Brazza, of Soreschiano, near Udine, about midway between Venice and Trieste, at the head of the Adriatic. As these much excelled all similar Violets which we had seen, we sought permission to have some of them engraved, and the

illustration now given gives a fair idea of their size and regularity of form, and this at the end of the flowering season. In January and February the blooms are yet finer. The plant is of very sturdy robust habit, with fine bold foliage and a profusion of flowers. How far these noble Violets owe their attributes to the maritime climate of the Adriatic, we cannot say." The left-hand figures represent the blue form, the right-hand the white. They were the finest double Violets we have ever seen.

THE GHENT QUINQUENNIAL HORTICULTURAL EXHIBITION.

THE *Société Royale d'Agriculture et de Botanique de Gand* has just held its tenth quinquennial International Horticultural Exhibition, which has to be recorded as one of the successes of 1878. It was held in the buildings and grounds of the Casino, a well-known place of public resort. The weather was unfortunately unpropitious at the commencement, but changed for the better towards the close. Notwithstanding stormy winds, drenching rains, and biting frosts, the great central hall of the Casino, with an annexe, and a large three-aisle building in the grounds, together with a suite of smaller rooms devoted to new plants and specialities, were filled to overflowing; while the various horticultural buildings erected for exhibition were themselves utilised, and contained a wonderfully fine display of Hyacinths and Amaryllids.

The jury met at 10 a.m. on March 30th, and having been drafted off into eighteen sections (the Duc de Cazes, President of the Botanical Society of France, being chosen President-General, and Mr. Thomas Moore, of the Chelsea Botanic Garden, Secretary-General), proceeded in due course to make their awards.

The most noticeable objects amongst the numerous plants collected together in the Great Hall were the groups of *Azalea indica* amongst flowering plants, and the Palms, Ferns, Cycads, Dracænas, &c., amongst foliage plants. The Azaleas, inimitable examples of horticultural skill, were usually grown on short clean stems, with dome-shaped heads of 3 ft. to 5 ft. across, and were literally masses of glowing colours in almost endless variety. Those shown by M. Ghellinck de Walle, who won the King's gold medal for 50 specimens, by the Comte de Kerchove de Denterghem, by M. Jean Vervaene, and by M. Louis Van Houtte, were especially good. Palms are always a great feature at these shows, the fortunate possessors not being so chary as our own aristocracy in permitting them to be brought into public. Here M. Ghellinck de Walle took the gold medal for 40, with a group of noble plants; and M. Van Houtte, M. D'Haene, M. A. Verschaffelt, M. J. Nuyttens-Verschaffelt, and others contributed freely. The leading prizes for Cycads were won by M. Ghellinck de Walle, Comte de Kerchove de Den-

terghem, M. G. Nuyttens-Verschaffelt, M. Vanden Wouwer, M. A. Van Geert, and M. Van Houtte. For Pandanads, M. Van Houtte took first prize in all three classes. For 12 Tree-Ferns, the Queen's gold medal fell to the Comte de Kerchove, and the prize for the most beautiful example to M. Vanden Wouwer, probably one of the handsomest Tree-Ferns ever shown, a *Dicksonia antarctica*, with a stout trunk 6 ft. to 8 ft. high, and a dense symmetrical head in perfect health and freshness, with a spread of at least 12 ft.—really a model Tree-Fern. A splendid group of 40 mixed tree and herbaceous Ferns from M. Ghellinck de Walle, and another of 40 grand herbaceous Ferns from the Comte de Kerchove, were first in their respective classes, as was a group of 20 well-grown *Adiantums* from the latter, a most effective class. Mr. J. Wills took the first prize in the three classes of Dracænas, with collections of his famous hybrids.

In another large building the more hardy kinds of plants, as Rhododendrons, Camellias, choice Conifers, Japanese Maples, cool-house Ferns, &c., were arranged. Here were some splendid groups of *Azalea mollis*, a race of plants destined to take a foremost place amongst the hardy shrubs grown for forcing into flower in early spring, being remarkable for their tints of yellow, salmon, and rose, and extremely floriferous. Several of the plant-houses erected for exhibition were utilised. Thus one which was kept heated accommodated a choice set of Orchids from Messrs. W. Rollisson and Sons, a good miscellaneous group from Messrs. Veitch and Sons and Mr. B. S. Williams, and many other interesting minor exhibits; another accommodated a grand lot of 100 Hyacinths, the best that have been seen this season, shown by Messrs. Veitch and Sons; another was devoted to several competing sets of Hyacinths, of which M. Van Houtte's were the best; and in yet another were some grand lots of 75 Hippeastrums, M. Van Houtte's and the Comte de Kerchove's, which respectively took the leading prizes in the Amateurs' and Nurserymen's classes, being far in advance of the rest.

In the open grounds was a grand display of subjects much more used abroad than with us, namely, splendid examples of standard Bays,

Laurustinus, pyramidal and columnar Box, &c.; and there was a very large assortment of horticultural erections, implements, and sundries.

The novelties were exhibited in a separate warmed apartment, and the numerous prizes were hotly contested, the first mostly falling to Mr. W. Bull, and the second to Mr. J. Linden, both of whom showed many good plants, those from Mr. Bull being of remarkable merit, as the prize-list testified. M. Jacob-Makoy, M. L. De Smet, and M. A. Van Geert were also exhibitors. Some of the more striking of Mr. Bull's plants were *Dieffenbachia Leopoldii*, a splendid plant, with ovate velvety dark-green leaves, marked down the centre with an ivory rib and band, the stem streaked with blackish-purple; *D. regina*, one of the most striking of the blotched kinds, with a yellowish or creamy surface, blotched with mixed patches of yellowish-green and dark green, and narrowly bordered with dark green; *D. Shuttleworthii*, a distinct species, with more lance-shaped leaves having a broad feathered silvery central band; *Davallia fijiensis*, one of the handsomest of the hare's-foot ferns, remarkable for the large size and finely-cut divisions of its evergreen fronds; *Dipteris Horsfieldii*, a splendid Javanese fern, with remarkable bipartite palmatifid fronds, glaucous beneath, elevated on long wiry petioles; several *Crotons*; the West African *Dracæna Goldieana*, with its fine zebra-like transverse markings, now pretty well known, though new in a commercial sense; several distinct *Aralias*; *Anthurium insignis*, remarkable for its glossy three-parted decurved leaves; the Sandwich Island *Cibotium Menziesii*, a tree-fern of bold and distinct character; *Lastrea aristata variegata*, a Japanese form of this nearly hardy evergreen species, in which a band of yellow-green on both sides of the costa produces a very striking variegation; and *Selaginella Victoriae*, a very handsome species in the way of S. Wallichii. In M. Linden's various groups were *Anthurium Dechartii*, a fine novelty, with large white spathes, of which there appears to be varieties differing in size and merit; *Massangea Lindeni*, a very fine Bromeliad, with the bright light-green leaves, transversely barred in irregular wavy lines with black, one variety called *M. L. vermiculata* being also dotted with black; *Philodendron*

gloriosum, with heart-shaped, satiny-green leaves, marked with pale ribs; *Kentia Lindeni* and *K. Luciani*, two new and handsome New Caledonian palms; and several *Aralias*, *Crotons*, and *Dieffenbachias*. M. Makoy had several Brazilian Marantas in the way of *M. Massangeana*, the best perhaps being *Maranta Morrenii*, which is of a more bronzy hue throughout. M. Van Houtte showed in one of his groups the pretty *Daphne Blagayana*, a dwarf hardy evergreen shrub, with neat oblong leaves, and abundant heads of creamy-white showy flowers. Such are some of the principal features of this fine show, which may be regarded as one of the chief horticultural events of the year.

The exhibition, which lasted for a week, was opened to the public by the King and Queen of the Belgians in person on March 31st, and their Majesties spent nearly three hours in inspecting the objects exhibited. On the same day the banquet given by the Society to the members of the jury took place in the saloons of the grand theatre, M. Delcour, the Minister of the Interior, being amongst the guests. There were upwards of 200 persons present. The hospitality of our Belgian friends on these occasions is always most cordial and profuse.—T. MOORE.

OUR GARDEN PEAS.

IT is high time to look up our information on the subject of these vegetables, when our French neighbours and others are sending us Green Peas in tins available for the table any day in the year. I have eaten these preserved Peas, when Green Peas from the garden could not be obtained, and although they bear no comparison with well-grown fresh Peas, yet with the help of a little bicarbonate of soda to green their outsides and soften their hearts, they pass muster at the market ordinary, where contented farmers are delighted to see them at unlikely times.

In the early days of my acquaintance with garden Peas, the Early Charlton, with small white seeds about the size of buckshot and nearly as hard, was the first of the season. At the time when Charlton was a sea of market gardens in the immediate vicinity of London, this sort would no doubt be looked upon as the London early Pea, but Charlton has long ago

merged into London on the Surrey side, and as for the early Peas, new names of sorts with new properties, dwarf habits, &c., have come to the front, to meet the wants of the grower, as well as those of the user. The acres of Peas grown to find London in pulse are not staked like those grown in gentlemen's gardens, but are allowed to stand or fall down as wind and weather may permit, and one gathering often suffices, after which the ground is cleared of this early crop, to admit of a late crop of something else, for unless two crops are got for one rent, rates, and taxes, the business would not pay.

All the tins of preserved Peas that I have seen consisted of small hard Peas, not unlike the old Charlton, and no doubt they had been grown in fields without any stakes or props. Peas grown in this way are apt to have the pods soiled with earth or sand, and require careful shelling to keep the seeds clean. The women who usually shell the Peas in Covent Garden Market pass the sample through a sieve, so that the larger and older seeds are thereby excluded. When people prefer buying their Peas to growing them, they get their money's worth, and as they know no better, their blissful state need not be tampered with, for washing-soda will do wonders with white Peas, and it is cheaper than bicarbonate as a dye-stuff.

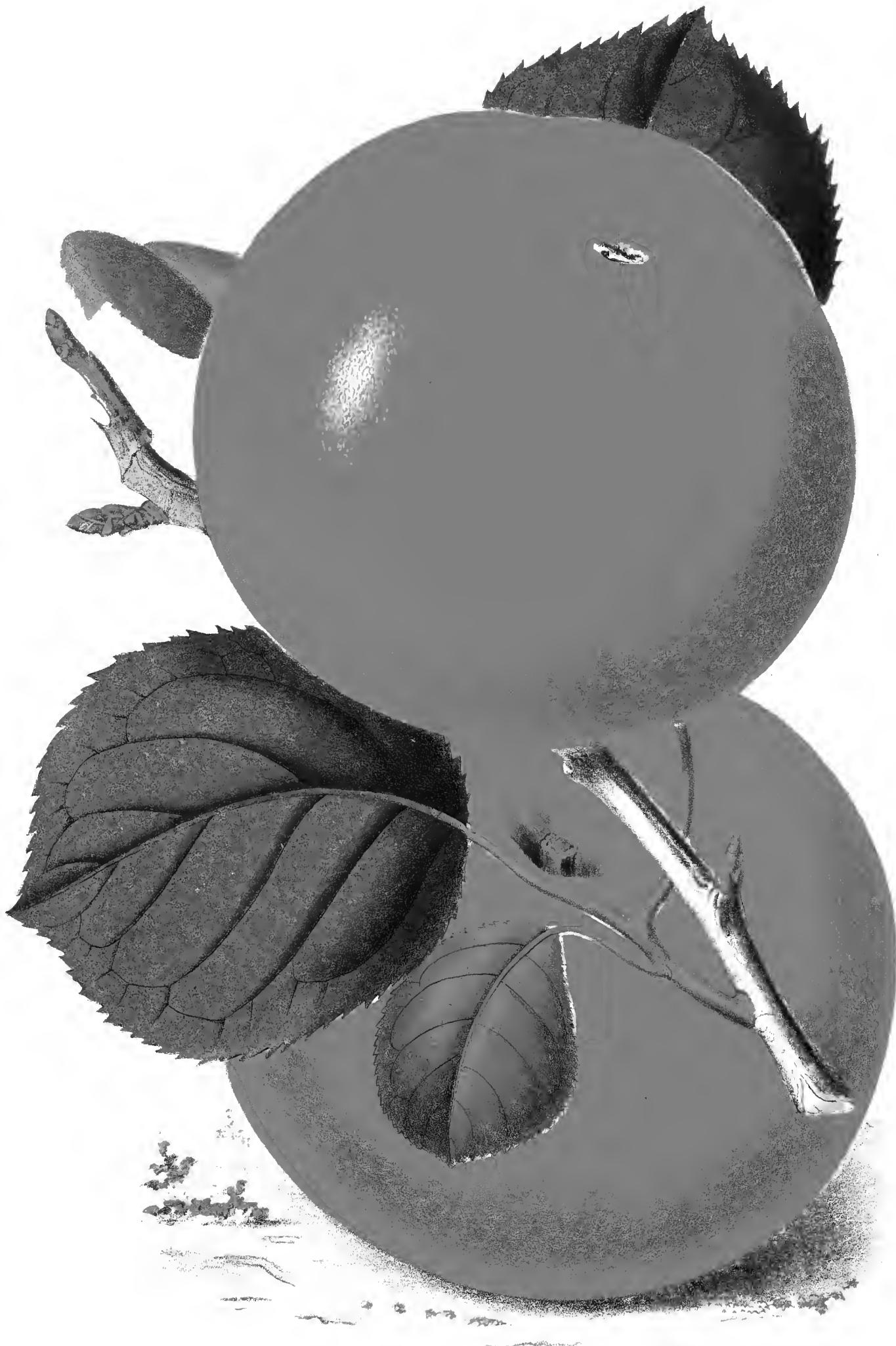
Soon after I had charge of a garden on my own account, I found very great difficulty in keeping up a regular supply of Green Peas for the family. Repeated sowings of different varieties would either all come in together, and make a glut, or a month of warm weather would send all my stock of Peas past eating, as if I were ripening them for next year's seed, not to name mildew for want of rain, and also allowing to pass into oblivion what the mice devoured before the plants got much above ground, or what the sparrows carried off or the mole upheaved in hunting worms. The first season settled my views. After consulting all the advice available in books, I thought I must strike out a course for myself, and make accurate experiments that should guide me as to when each kind should be sown, with a view to its coming in as green Peas for the table; and that I must likewise lay in under each row of Peas such a reserve of wet manure, and at such a depth, that mildew might be avoided, for watering this kind of crop in hot and dry

weather is not likely to reach the feeders of the plants, and only deceives the gardener who trusts to it. I got samples of all the best varieties of Peas, and sowed them all on one day early in March, and registered the time that each sample took to come to maturity, that is, to green peas fit for table. The reader will see from these experiments good reason for my want of success, when I sowed succession crops of Peas of various sorts without any fixed rule to guide me, for only one variety came in fit for use in 90 days, though some other earlies were only a few days later. The dwarf varieties had the advantage of the taller kinds, as they could be sheltered more easily. A noted grower once remarked to me that he did not reckon a Pea worth growing whose haulm did not reach 6 ft. In a general way, I agree with him, but there is one notable exception to this rule, and that is in the variety known as Veitch's Perfection, which seldom runs more than four feet, and is literally *Perfection*, carrying the largest seeds and the largest pods known at the time this variety came into cultivation. I grew Morgan's Wonderful, and it crowned the list of tall-growing Peas, being quite six feet high and well stocked with pods; indeed, I never saw more Green Peas got from the same ground, and therefore I took pains with this kind, and provided proper sticks to support the plants up to their full height.

I must here note that although the early kinds generally took only 90 days to come into use, the tall-growing kinds, such as the Wrinkled Marrow, took 130 days to be fit for use. The details are of little importance now, as the subject has been well ventilated, and we see splendid samples exhibited which show that the growers thoroughly understand the subject; but the time that each kind takes to come to maturity, as compared with others, does not appear to enter into their calculations. I gave details of my experiments in the gardening periodicals of the day, and need not repeat them here, for "what so tedious as a twice-told tale?"

The tall-growing kinds of Peas have splendid tendrils suitable to their exalted state, and these tendrils, blind though they be, have something very like intelligence, for we see them laying about for something to take hold of, and when they have found it, they will draw





Stone's Apple.

themselves up by it sailor-fashion, sure-footed, tightening the tie by coiling the wiry tendril like a corkscrew, and as the circumference is equal to three times the length of the diameter, it has the power to shorten the tendril by coiling until it gets a tight hold of the stick. Any rough prop will support a wire, like a common clothes-line, and on this wire short pea-sticks may be hung, heads downward, and on each side a third row may be set, heads upward; this will give scope for the tallest Peas to run, and when the season is over, it will be seen that every twig has been tied by the tendrils into a compact bundle. With a stem so slender and a head so heavy, the Pea-plant is a marvel of skilful work, and presupposes some kindly bush or thicket to lean upon.

There is little more now to hope for in the way of new varieties of Peas, and it would look like an advertisement were I to name the sorts whose merits are chronicled in the various seed-lists. If we are to have green Peas in winter, we may as well grow our own, as buy poor sorts from our southern neighbours. I need not say that a sure sale would be secured by bringing a good article into the market, so that duck and green peas need not any longer be "given by way of dainty, but every day."

—ALEX. FORSYTH, *Salford*.

PETUNIAS FOR DECORATION.

FOR the decoration of the greenhouse and conservatory, there are few plants more useful than Petunias. They have many good properties to recommend them, for they are brilliant in colour, excellent in habit, and flower most profusely; they are also easily grown, and not seriously troubled with insects. They have been wonderfully improved of late years, and many of the varieties, both single and double, are exceedingly beautiful. For flowering in spring, the plants should be struck in August. When the cuttings are rooted, they should be potted off and grown on in a pit or frame until the end of September, when they should be removed to a shelf in a light airy part of the greenhouse, but previous to being placed on the shelf in the greenhouse they should be shifted into their flowering pots. They should be kept moving very gently during the autumn and winter months. They will not, in the latter season, do in a low tem-

perature and moist atmosphere, as they are apt to damp-off. They will come into flower in spring without any forcing, and will continue a long time in great beauty. Their freedom from insects is a great point in their favour, as the time taken up and expense incurred in fumigating and cleansing other soft-wooded plants, are very considerable.

Plants for summer and autumn decoration should be struck in spring, and grown on in pits or frames. They can also be raised from seeds. Some seed sown in March or April will furnish plants for summer and autumn; and seed sown in June will furnish plants for spring flowering, if they are kept in small pots during the summer.—M. SAUL, *Stourton*.

STONE'S APPLE.

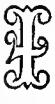
[PLATE 467.]

 HIS excellent and showy culinary Apple is much cultivated in some parts of Kent for market purposes; being not only of free-bearing habit, but also having all the properties of a first-class cooking fruit. The variety appears to have originated on a farm at Loddington, near Maidstone, formerly occupied by Mr. Stone, the original tree still existing there, and hence it was called STONE'S APPLE. Trees have been sold by the Messrs. Bunyard and Sons, of Maidstone, under the name of Stone's Apple, or Mapson's Seedling; and the variety is described in their catalogue, as being "very large and handsome, a sturdy grower, much grown at Linton for market, a good bearer." It has subsequently been described in the *Journal of Horticulture* and the *Gardeners' Year-Book*, 1878, under the name of Loddington Seedling.

For the opportunity of figuring this excellent culinary apple, we are indebted to Mr. Lewis A. Killick, of Langley, near Maidstone, who was good enough to send us the characteristic examples from which our illustration has been prepared by Mr. Macfarlane. Some fine examples also from Mr. Killick were exhibited on October 2nd, at a meeting of the Royal Horticultural Society, when it was awarded a well-deserved First-class Certificate. The tree is no doubt of most prolific habit, and the sort deserves to be widely cultivated. We learn from Mr. Killick that the season for use is from August to November. In the specimens we

had the opportunity to examine, the fruit was large, 3 in. to 4 in. in diameter, somewhat depressed, or in other examples narrowing abruptly at the apex, the surface forming slight blunt ridges, which become more distinct around the crown, where they are generally well marked. Skin smooth shining green with a brownish cheek, but turning at full maturity to a pale straw-yellow, with a pale crimson flush on the cheek, and also marked with a few broken streaks of darker crimson, the whole surface being thinly strewed with minute russet points. Eye downy, closed, with convergent leafy segments, set in a deep prominently but unequally-ribbed basin. Stalk $\frac{1}{2}$ in. to $\frac{3}{4}$ in. long, comparatively slender, inserted in a broad deep funnel-shaped cavity, which is lined with pale tawny-russet, extending in broken feathery points over the base of the fruit. Flesh white, solid, tender, and with an agreeably sub-acid flavour. The foliage is bold, roundish, and coarsely toothed; and the shoots are vigorous, deep brownish-purple. Like Lane's Prince Albert, this apple is remarkable for coming early into bearing, and hence is one which may be planted with a view to profit. Its free-bearing habit tends to keep its growth within moderate bounds, so that it forms a compact and medium-sized tree.—T. MOORE.

HOW TO GROW AND EXHIBIT PANSIES.

 FULLY expected when at the National Carnation and Picotee Society's Exhibition at the Royal Aquarium, Westminster, last year, to see Pansies far superior to anything we are able to produce at our Northern Shows; but I was much disappointed. In addition to the flowers being of inferior character, they were soiled, and badly set up. Having been a grower and exhibitor for many years, I propose to describe my plan of growing and exhibiting these beautiful spring, summer, and autumn flowers.

The soil I find most suitable is a moderately strong loam, deeply trenched, and well mixed with rotten dung—that from an old hot-bed, I have found most suitable. If the ground is new, it is best to grow on it a crop of either Potatos or Carrots the year before the Pansies are planted, otherwise it is not at all improbable that the wire-worm and other insect pests may prove troublesome. If it should be an old garden, the trenching and manuring of the soil should be done in the autumn before planting, trenching deep, and mixing at the same time with the manure a sprinkling of lime, to sweeten the mass. The

surface should be left during the winter as rough as possible, that the component parts may be acted upon by the weather. About the middle of March, if moderately dry, the ground is forked over, making the surface as fine as possible, and the plants are put in as soon as the ground is fit. I always plant deeply, stripping off a few of the lower leaves, and in cases where the plants are of long straggling growth, either peg them down, or else tie them to short stakes. After this they will require but little attention for a time, excepting it be to look out for, and protect them against, slugs, which are generally very troublesome, so that it is not an uncommon thing to find several plants eaten off in a single night.

The distance at which to plant depends greatly on the mode of growth. For my own part, I have had as fine flowers from plants 6 in. apart as when the distance has been 1 ft. each way; but of course, they were pinched and cut in, and kept close. In my ground, I find the best distance to be 1 ft. from row to row, and 9 in. from plant to plant. The plants are, of course, propagated in sufficient numbers under glass, the cuttings being either inserted in pots, close round the edge, or in beds, which will contain more, for the spring planting. It is well also to plant at the same time seedlings which have been sown in the autumn in boxes. These yield a fine display of flowers after the named sorts begin to get small, and lose their belting. Seed may also be sown in April in the open border, with the moderate certainty of having a good show of flowers.

It is necessary during the summer months to arrange some kind of shading to keep the plants from being burnt, or scalded, which frequently happens during hot weather. The best plan I know is to plant at about 2 ft. from the edge of the pansy-bed on the south side, a row of Hollyhocks and Dahlias, placed alternately; these give sufficient shade, while the plants are not drawn, but continue to bloom finely all the season.

Should the season prove wet, it will be necessary to cover the flowers, if intended for exhibition, as nothing spoils the blooms more quickly than wet. My plan is to procure some sticks from $\frac{1}{2}$ in. to $\frac{3}{4}$ in. in diameter, and about 1 ft. long; near the top of these I make

a saw-cut, sloping upwards ; and in this I fix a 6-in. square pane of glass, letting it hang over the flowers. By this means I have generally been able to cut clean flowers, when otherwise they would have been unfit for exhibition. I have observed that this mode of shading hastens the development of the flowers, which in dull wet weather is frequently a necessity. All other plans of shading I have tried have a tendency to draw the plants, but this never does so, and I have frequently seen a cover remain over a plant for two or three weeks without the plant being drawn in the least.

In dull, moist seasons there is not much difficulty in growing the Pansy, as the only enemies the grower then has to contend with are the caterpillar and the slug, which can easily be destroyed. In hot, dry summers, particularly in warm districts, the difficulties are greatly increased. Then heavy waterings are necessary, not sprinklings. I water in the evening heavily betwixt the rows, and after, say, an interval of an hour, I go over the plants and give them another soaking overhead, with the rose on the water-pot. By this means they are kept continuously growing.

The most troublesome enemies amongst them at this time are the aphides—the yellow and the green—which collect at the end of the shoots and on the under-side of the leaves, and which, if not promptly attended to, will soon kill the plants. The plan I adopt is to mix 2 oz. of Gishurst compound to the gallon of soft water. I work it well up with the syringe before using till it becomes a perfect lather, with which I smear the plants all over, till, at a distance, they look like large snow-balls. I let this lather remain on them for an hour or two, when I syringe it off with water. This is always done in the evening, after the sun has gone off the beds. I have tried soft-soap in solution, and find it answer just as well, only that it is impossible to get samples of it of equal strength. I have tried quassia chips, but prefer the Gishurst compound.

Should the plants get leggy during the summer, it is a good plan to go over and peg them down, giving a top-dressing composed of rotten dung, leaf-mould, and good soil.

In growing for exhibition, it is necessary to keep the plants from seeding, otherwise the flowers will become small and deficient of colour. It is good practice to strip all the flowers off a week or a fortnight before an exhibition, thinning them as they come forwards afterwards. The best liquid manure for

them I find to be the urine from a cow-house, of which I use about one pint to the gallon of water, applying it betwixt the rows.

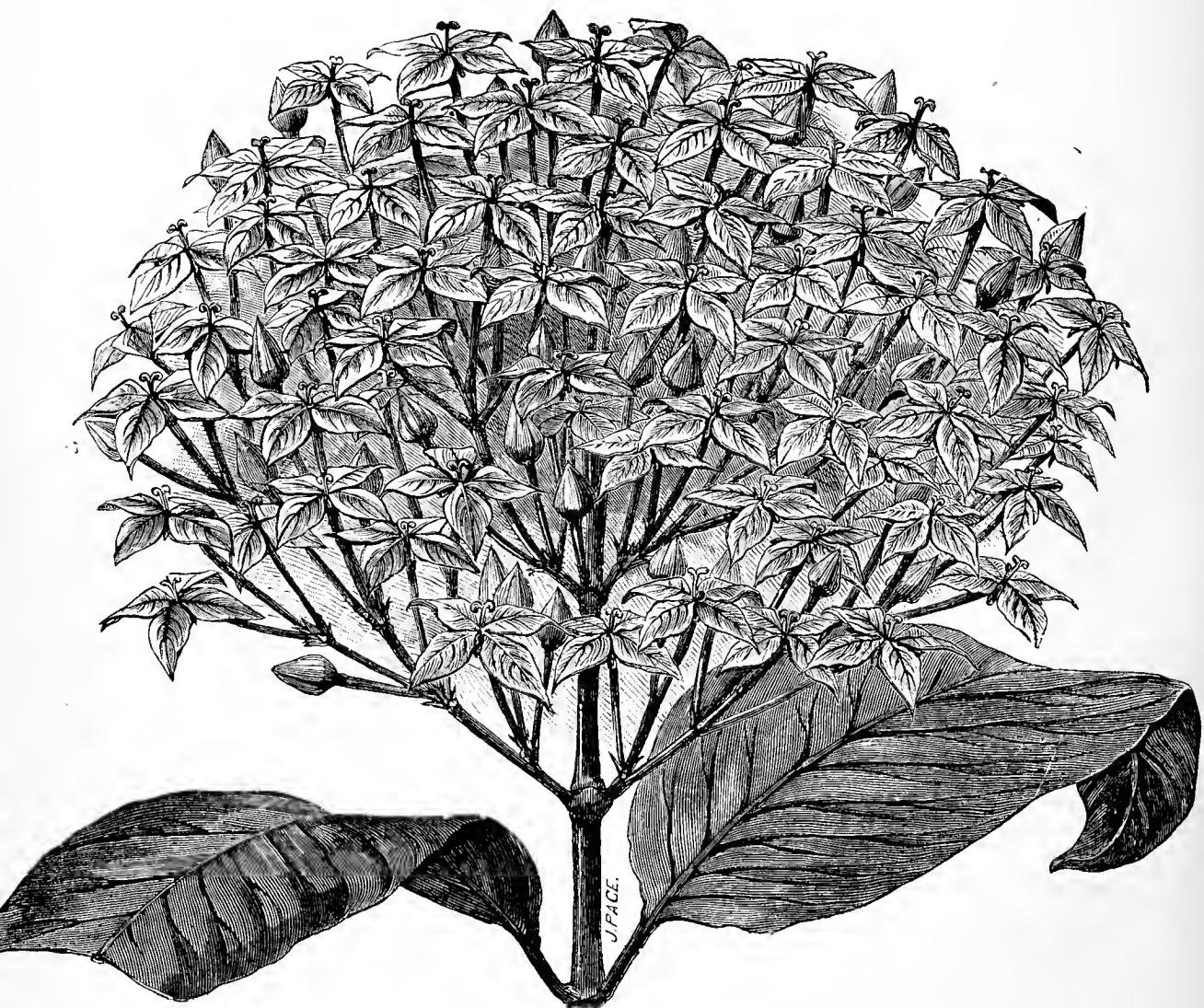
Many varieties of the Pansy carry a bloom on the flower ; it therefore behoves the exhibitor to be very careful not to rub it off, which is certain to be done if the flowers are packed betwixt vine-leaves, as I saw them at the Aquarium. The result was that they were so soiled and crushed, that they were unfit for the exhibition-table. The plan I have adopted, after long experience, is to tie not more than six flowers, oftener four, in a bunch, and to place the stalks in a dahlia-tube in the exhibition-box, and I have never had them soiled or spoiled. Should the weather be very wet and the flowers damp, it is a good plan to cut them over-night, placing them separately, the stalks in water, in a dry room, and in the morning the flowers will generally be found perfectly dry. It is not a great work to set the flowers up on arriving at the place of exhibition, if all is ready for the purpose. If the flowers are good, ten minutes should be ample time for, say, a stand of twenty-four. I always like to exhibit the flowers on white paper-collars, as a white margin surrounding the flowers, in my opinion, renders the colours more striking. The stands I use for twelves consist of three fours of the following dimensions :—From centre to centre, 3 in. ; from centre to outside, 1 $\frac{3}{4}$ in. ; outside length, 12 $\frac{1}{2}$ in. ; width, 9 $\frac{1}{2}$ in. ; depth, 4 in.—G. RUDD, *Undercliffe, Bradford.*

ANTHURIUM REGALE.

THIS fine foliaged plant is not very frequently met with, but for the size and beauty of its leaves its merits are far above some foliage plants which are more generally sought after. The fine velvety texture of the leaves, and the size of them combined, give it a truly regal appearance. I have measured leaves 26 in. in length and 14 in. in breadth. And, moreover, it is of easy culture. A young plant from the nursery should have a liberal shift, say, from a 4-in. to an 8-in. pot, using a mixture of fibry peat, with chopped sphagnum, and a liberal quantity of pieces of charcoal ; to this add sharp silver-sand, in sufficient quantity to keep the mixture sweet and porous. The drainage should be one-third of the depth of the pot used to shift the plant. In repotting, break the pot from which the plant is taken ; any portion to which the roots may adhere should not be removed, as the roots, being large and of a fleshy nature, would be injured thereby. In potting, keep

the plant well-elevated, and press the compost in moderately firm. An ordinary stove temperature suits this *Anthurium* well, but it should be kept as far from the ventilators as can be done conveniently, in order to prevent

cold air from falling immediately over it, as this tends to brown and otherwise disfigure the rich velvety surface of the handsome foliage of the plant.—HENRY CHILMAN, *Somerley Gardens*.



IXORA DUFFII.

THE Messrs. Veitch and Sons, of Chelsea, by whom this novelty has been introduced, describe it as a very fine species, with large leaves upwards of a foot in length, and brilliantly coloured flowers. It was discovered and introduced to the Sydney Botanic Garden by Mr. Duff, one of the staff attached to that garden, and was sent to this country by the director of the Sydney Garden, Charles Moore, Esq.

The flowers more nearly resemble those of

I. salicifolia than those of any other known species. They grow in large globular cymose heads, six inches or more in diameter, and are of the richest vermillion-red, shaded with crimson. The tube of the corolla is slender, and as finely coloured as the limb, the lobes of which are ellipsoid and slightly reflexed.

It is reported to be a native of Ualan or Strong Island, one of the Caroline group in the Pacific Ocean, and is a beautiful plant, one of the most distinct of its tribe.—T. MOORE.

THE NATIONAL AURICULA SHOW.

SOUTHERN SECTION.

THE National Auricula Show of the South was held on April 25, at the Crystal Palace, Sydenham. The Show was on a more extensive scale than last year, and gave evidence of an increasing taste in the cultivation of these quaint-looking, but engaging flowers. This extending popularity may no doubt be in some degree ascribed to the energetic action in support of the infant Society, on the part of its most indefatigable honorary secretary, Mr. Dodwell, and also to the admirable papers of Mr. Horner, published in the *FLORIST* and elsewhere; for the Auricula is one of those flowers which only requires to have attention directed towards them, to win golden opinions from all persons of highly cultivated taste.

The prize schedule embraced nine classes for the Auricula proper, that is, the show series of selfs, grays, greens, and whites, and three classes for the Alpine Auriculas, which are fast winning a position in the florist's estimation; three classes being added for Polyanthus, which, blooming as they do at the same time, were fittingly associated with the Auricula, and afforded increased variety. The bloom was very vigorous, and the show very attractive from its general point of view. This result must be very gratifying to those who have laboured to establish Auricula shows in the metropolis.

Class A. 12 AURICULAS.—1st prize to the Rev. F. D. Horner, Kirkby Malzeard, Ripon, for Lancashire Hero (Lancashire), Champion (Page), Freedom (Booth), Frank Simonite (Simonite), Prince of Greens (Trail), Smiling Beauty (Heap), Lord of Lorne (Campbell), John Simonite (Walker), Col. Taylor (Leigh), George Lightbody (Headly), Sapphire (F. D. Horner), a lovely purple plum-coloured self seedling, and Anne Smith (Smith); 2nd, Mr. Jas. Douglas, gardener to F. Whitbourn, Esq., Loxford Hall, Ilford, for True Briton (Hepworth), Charles J. Perry (Turner), Col. Champneys (Turner), Admiral Napier (Campbell), Lord Clyde (Lightbody), Alexander Meiklejohn (Kay), Master Hole (Turner), Smiling Beauty (Heap), Col. Taylor (Leigh), George Lightbody (Headly), Apollo (Beeston), and a fine white-edged seedling; 3rd, Mr. Ben. Simonite, Rough Bank, Sheffield, for Lancashire Hero, Beauty (Trail), Conqueror of Europe (Waterhouse), Ruby (Rcad), Duke of Argyll (Campbell), Complete (Sykes), Samuel Barlow, John Simonite, Frank Simonite, Lord of Lorne, and a very dark richly-coloured seedling self; 4th, Mr. Turner, Slough, with Arabella (Headly), Mrs. Sturrock (Martin), Robt. Trail (Lightbody), Charles J. Perry (Turner), Highland Queen (Horsefield), Colonel Champneys, Rev. F. D. Horner (Turner), Ensign (Turner), Eliza (Sims), Johu Waterston (Cunningham), Sarah (Turner), and Lancashire Hero.

Class B. 6 AURICULAS.—1st prize to the Rev. F. D. Horner for Lord of Lorne, Prince of Greens, Lancashire Hero, Smiling Beauty, George Lightbody, and Freedom; 2nd, Mr. B. Simonite for Lovely Anu (Oliver), George Lightbody, Talisman, Frank Simonite, and two seedling selfs; 3rd, Mr. James Douglas, for Admiral Napier, Alexander Meiklejohn, Colonel Champneys, Lord Clyde, and True Briton; 4th, Mr. Turner for Colonel Champneys, Charles J. Perry, John Waterston, Alderman C. E. Brown (Headly), Omega (Turner), and Mrs. Sturrock; 5th, Samuel Barlow, Esq., Stakehill House, Chaderton, Manchester, for Mrs. Smith (Smith), Imperator (Litton), Colonel Taylor, Pizarro (Campbell), Lord of Lorne, and *Ne Plus Ultra*.

Class C. 4 AURICULAS.—1st prize to the Rev. F. D. Horner for Ellen Lancaster (Pohlmans), Freedom, Lancashire Hero, and Smiling Beauty; 2nd, Mr. James Douglas for Alexander Mciklejohn, Charles J. Perry, Lord Palmerston (Campbell), and Smiling Beauty; 3rd, Rev. B. H. Margetts, Lillington, Uppingham, for Mrs. Smith, Alderman C. E. Brown, Catharina (Summerscales), and Imperator; 4th, Mr. Beu. Simonite for Samuel Barlow, Frank Simonite, Anne Smith, and a seedling; 5th, S. Barlow, Esq., for Lord of Lorne, Trail's Beauty, Lovely Anu, and Maria (Chapman); 6th, Mr. Turner for Bright Venus (Lee), Charles J. Perry, True Briton, and Colonel Champneys.

Class D. 2 AURICULAS.—1st prize to the Rev. F. D. Horner for Lancashire Hero and George Lightbody; 2nd, S. Barlow, Esq., for the same varieties; 3rd, Mr. Ben. Simonite for the same; 4th, the Rev. B. H. Margetts for Lovely Ann and George Lightbody; 5th, J. T. D. Llewelyn, Esq., Ynisgerwen, Neath, for two seedlings.

Class E. 1 GREEN-EDGED AURICULA.—1st prize to the Rev. F. D. Horner for Colonel Taylor; 2nd, Mr. B. Simonite for Apollo; 3rd, Mr. James Douglas for Lancashire Hero; 4th, the Rev. F. D. Horner for Booth's Freedom; 5th, Mr. Douglas for Beeston's Apollo; 6th, Rev. F. D. Horner for Colonel Taylor; 7th, Rev. F. D. Horner for Booth's Freedom; 8th, Mr. James Douglas for Lord Palmerston (Campbell).

Class F. 1 GREY-EDGED AURICULA.—1st prize to Rev. F. D. Horner for Alderman Charles E. Brown; and 2nd and 3rd, for George Lightbody and Lancashire Hero; 4th, Mr. Douglas for Alexander Meiklejohn (Kay); 5th, Rev. F. D. Horner for Complete (Sykes); and 6th, for George Lightbody; 7th, Mr. Turner for George Lightbody; and 8th, the Rev. F. D. Horner for the same variety.

Class G. 1 WHITE-EDGED AURICULA.—1st prize to Rev. F. D. Horner for Catharina; 2nd, for John Simonite; and 3rd, for Smiling Beauty; 4th and 5th, Mr. Douglas for Catharina (Summerscales); 6th, the Rev. F. D. Horner for Anne Smith; and 7th, for Miss Arkley (McDonald); 8th, Mr. Douglas for the same variety.

Class H. 1 SELF AURICULA.—1st prize to Rev. F. D. Horner, for Pizarro (Campbell); 2nd, for Meteor Flag (Lightbody); 3rd, for Ruby; 4th, Mr. James Douglas, for Eliza (Sims); 5th and 6th, the Rev. F. D. Horner for Meteor Flag; 7th, S. Barlow, Esq., for the same variety, and the same exhibitor 8th, for a violet-purple seedling.

Class I. 50 AURICULAS, including ALPINES.—The three prizes offered in this class were won by Mr. James Douglas, Mr. Turner, and J. T. D. Llewelyn, Esq., in the order named:—Mr. Douglas had fine examples of Maria (Chapman), Vulcan (Sims),

Lancashire Hero (Lancashire), Apollo (Hudson), Lyceurgus (Smith), Complete (Sykes), Master Hole (Turner), Lovely Ann (Oliver), Charles J. Perry (Turner), Alderman Wisbey (Headly), Robert Trail (Lightbody), Sophia Dumasque (Lightbody), Topsy (Kay), Beauty (Trail), Complete (Sykes), Lord of Lorne (Campbell), Colonel Champneys (Turner), Lord Clyde (Lightbody), Admiral Napier (Campbell), Metropolitan (Spalding), General Neill (Trail), True Briton (Hepworth), Lady Richardson (Gairn), Ellen Lancaster (Pohlman), Mrs. Smith (Smith), John Waterston (Cunningham), Britannia (Smith), Meteor Flag (Lightbody), Mrs. Campbell (Cunningham), Confidence (Campbell), and one or two good seedlings.

Class K. 12 ALPINE AURICULAS.—1st prize to Mr. Turner, for Mr. Dodwell, John Ball, Unique, Napoleon III., Slough Rival, Mrs. Thomson, Queen Victoria, Miss Frowd, Beatrice, King of the Belgians, Selina, and Dolly Varden, all of his own raising; 2nd, Mr. James Douglas, for Spangle (Turner), Miss Reid, Prince (Douglas), Florence (Douglas), Beatrice, Minnie (Turner), Queen (Douglas), Bronze Queen (Turner), Selina, Neatness (Gorton), Diadem (Gorton), and a seedling; 3rd, Samuel Barlow, Esq., for Edgar (Turner), Nimrod (Turner), Conspicua, Echo (Turner), Etna (Turner), Dazzle, Bronz Queen, Mercury (Turner), Tenniel, Diadem, and Mauve Queen; 4th, J. T. D. Llewelyn, Esq., for Nimrod (Turner), Tenniel (Turner), Cupid (Turner), Spangle (Turner), Dolly Varden (Turner), Topaz (Turner), Selina, King of the Belgians (Turner), a fine dark seedling named Gwendoline, and three other unnamed seedlings.

Class L. 6 ALPINE AURICULAS.—1st prize to Mr. Turner, for Troubadour (Turner), Sensation (Turner), Queen Victoria (Turner), Mercury (Turner), King of the Belgians, and Slough Rival; 2nd, Mr. James Douglas, for Bronze Queen, Beatrice, Neatness, Dolly Varden, Silvia (Douglas), and a seedling; 3rd, S. Barlow, Esq., for Ovid, Beatrice, Conspicua, Mercury, Diadem, Brilliant; 4th, Mr. R. Dean, for Mercury, Diadem, Shaded Mercury, Echo, Bronze Queen, and Dolly Varden; 5th, J. T. D. Llewelyn, Esq., for Diamond, Gwendoline, King of Crimsons, Sydney, and two seedlings.

Class M. 1 ALPINE AURICULA.—1st prize to Mr. Turner, for Miss Taplin; 2nd, Mr. Turner, for Mariner; 3rd, Mr. R. Dean, for Captivation; 4th, Mr. James Douglas, for Alexander Meiklejohn; 5th, Mr. Turner, for King of the Belgians; 6th, Mr. Turner, for Unique.

The premier Auricula selected from amongst the whole of the plants shown was George Lightbody, a beautiful truss of nine pips, shown by the Rev. F. D. Horner.

Class N. 6 POLYANTHUSES.—1st prize to Mr. R. Dean, Ealing, for six Gold-laced varieties, Exile, Lancer, Formosa, George IV., Earl of Lincoln, and President; 2nd, S. Barlow, Esq., for Cheshire Favourite, Exile, George IV., President, Lancer, and a seedling; 3rd, Mr. John Beswick, Middleton; and 4th, Mr. James Douglas, in whose collections the same varieties were represented.

Class O. 2 POLYANTHUSES.—1st prize to Mr. J. Beswick, for Cheshire Favourite and Exile; 2nd, S. Barlow, Esq., for Cheshire Favourite and President; 3rd, Mr. W. Brownhill, Sale, for Cheshire Favourite and Exile; and 4th, Mr. R. Dean, for Cheshire Favourite and Cox's Regent.

Class P. 1 POLYANTHUS.—Mr. Brownhill was 1st, 2nd, and 5th; S. Barlow, Esq., 3rd and 4th, and Mr. Beswick 6th, all showing Cheshire Favourite.

Certificates were awarded to Mr. Douglas, of Loxford Hall, for a remarkably fine grey-edged

seedling, the result of a cross between George Lightbody and Robert Trail; and for alpine varieties named Mrs. Meiklejohn, Queen, and Barlow's Annie; to Mr. Turner, for white-edged Auricula Omega, and for alpines, National and Mariner; to Mr. R. Dean, for Polyanthus Sovereign, a fine golden self fancy; and Polyanthus Lustrous, a striking flower, deep maroon in colour, with a rich golden centre; to Mr. T. S. Ware, Tottenham, for a good deep yellow Polyanthus Golden Eagle; and to Mr. H. Hooper, for Pansy Fred. Perkins.

VILLA GARDENING FOR MAY.

Though March sustained to a great extent its traditional character for bluster and rough winds, April has also vindicated its claim to be regarded as the month for showers, for we have had a succession of invigorating rainfalls that have done much good service to garden crops. Happily there is reason to believe that the snow and frosts which ushered in the month of April have not proved so destructive to fruit crops as was feared in the first instance.

GREENHOUSE.—Plenty of plants are now available for the decoration of the greenhouse. *Zonal Pelargoniums*, late-planted *Polyanthus*, *Narcissus*, *Cinerarias*; *Dielvtra spectabilis*, a capital plant for the Villa Gardener's greenhouse, because it is a clean plant, not becoming infested with green-fly; *Deutzia gracilis*, *Hoteia japonica*, have been gay for a few weeks past, and are holding on yet, and being succeeded by *Fuchsias*, from cut-down plants of last year; *Azaleas*, *Primula cortusoides amœna*, and its varieties; large-flowered and fancy *Pelargoniums*, *Lord Lyons*, *Forcing Pinks*, &c., are already in bloom, or coming on to supply the places of those which are fading. In the foregoing list will be found the names of things that can be managed with comparative ease by a Villa Gardener who has limited accommodation. They are satisfying plants also—they give good heads of bloom, and are therefore just the things requisite for the amateur's greenhouse. In the case of a greenhouse exposed to the sun, attention must be given to watering, as plants that have filled their pots with roots soon become dry when the heat of the sun is at all fierce. Wind soon dries the soil in pots also, and if the leaves flag for a brief period, they wither, and spoil the appearance of the plants. A gentle syringing in the morning, and again in the evening when the sun is declining, will be found very beneficial; also it is a good plan to keep the floor of the house cool and moist by means of repeated sprinklings. Green-fly must be well looked after; they increase rapidly during warm weather.

The class of plants generally recommended

for a cold greenhouse includes all we have previously named. Choice hardy plants coming into flower, such as might have found a place in the cold greenhouse a month or two ago, will now be best in the cold frame, as they can be more readily shaded; and as the season is rapidly coming on when some shading is requisite for the greenhouse, we think there is no better means of securing this than a roller-blind formed of what is known as bag-canvas—a material employed for making seedsmen's bags. When it is inconvenient to fix a roller-blind, the new composition, "Summer-cloud," may be used to paint the exterior of the roof with; it is of a pale green colour, but rather expensive to use. Then a little Brunswick-green, mixed with a weak solution of glue or milk, is a cheap and serviceable composition, darker in hue than the "Summer-cloud," but scarcely any the worse in consequence. These are preferable to the coating of whitewash sometimes applied.

FLOWER GARDEN.—It has been written of the month of May that it is so profuse in exuberant growth of leaf and flower, that,—

"All living things on earth, in air, or stream,
Wake to a life of beauty bright as angels' dream."

The Flower Garden bursts forth into a grand diapason of form and hue, the unutterable harmony of which flashes forth a glory answering to that of the skies above. Now comes the time of preparation for bedding-out. All bedding plants of a tender character should be hardened off as early in this month as possible. Such as were placed in cold frames in March or the beginning of April, and are now growing fast, need to be removed to the shelter of a wall or hedge, and protected at night till sufficiently insured to exposure. Their places in the cold frame should be taken by the tenderer stuff, which it is not safe to expose in the open air till all danger from frost is past. The beds and borders, too, should be got ready for planting-out, and by the middle of the month, *Calceolarias*, *Pelargoniums*, *Petunias*, *Verbenas*, *Antirrhinums*, and such-like may be planted out. If a plan for filling the beds and borders be drawn out, the tender subjects can be put in at the very last. If the beds are in a grass-plat, the grass should be mown before planting takes place, and be swept and well swept and rolled after this is finished. Plant out in showery weather, if advantage can be taken of its happening, and let the roots of all the plants be well moist when the work is done. *Asters*, *Zinnias*, *Stocks*, *Phlox Drummondii*, and *Marigolds* can go out in well-prepared ground, or should be put in some good rich soil at the time of planting. Hardy annuals should be sown without delay, and growing climbers kept trained. The spring-flowering *Clematises* are now showing their

buds, and the growing wood should not be suffered to hide them. Now is the time to plant out beds of *Neapolitan*, *Double Blue* and *Double White*, *Russian*, and *Queen Victoria Violets*. Every one loves a bunch of violets in spring, and beds of plants put out now will produce an abundance of flowers at that time of year.

COLD FRAMES.—Many early-flowering things that have gone out of bloom, such as *Hyacinths*, *Scillas*, *Crocus*, *Triteleia*, *Primroses*, *Polyanthus*, &c., may find temporary lodgment, at least in the cold frame, or failing a cold frame, they may be stood on a cinder-ash bottom, under a hedge or wall in the shade. *Auriculas* sown last autumn, also *Polyanthuses* and *Primroses* sown at the same time, can be pricked off into pots or pans, and placed in the frame. *Delphiniums*, *Aquilegias*, *Pentstemons*, *Salvia patens*, *Antirrhinums*, *Pyrethrums*, &c., raised from seeds sown this spring, may be similarly treated, as the cold frame is an excellent place in which to grow these on into size. All newly pricked-off things of this character will need to be syringed frequently in dry weather, to keep them growing.

KITCHEN GARDEN.—*Cauliflowers* and *Lettuce* should be planted out for succession on rich ground; if done in cool weather, and when the soil is moist, a good start is soon effected. By the end of May, *Vegetable Marrows* and *Ridge Cucumbers* may also be planted. It is a good practice, where it can be done, to gather together the vegetable refuse, leaves, &c., which are inseparable from a garden, and place them together in a heap, doing this in the autumn, and adding any refuse soil, manure, &c. This heap comes in very useful for planting-out *Marrows* and *Cucumbers* on, and by the end of the summer it is well rotted, and comes in very useful for mixing with potting-soil, top-dressing beds, &c. The hoe should now be brought into requisition, for loosening the soil between rows of *Peas*, *Beans*, young *Cabbages*, &c. *Tomatos* may be planted out against a south wall, when the weather promises to become settled, warm, and fine. Early in the month, *Scarlet Runner* and *Dwarf French Beans* should be sown for succession, and such late *Peas* as *Veitch's Perfection* and *Omega*. *Spinach* should be thinned-out, leaving the plants a fair distance apart. Sow *Turnip Radishes* and *Snowball Turnips* for succession. Some villa gardeners sow the whole of their *Radishes* and *Turnip Radishes* at once, which results in a glut and wasted crops. It is better to sow successionaly. Weed and thin-out beds of *Carrots*, *Onions*, &c. Earth-up and stake *Peas* as required, and as the *Early Potatos* come through the ground, hoe carefully about them, and draw some soil up to them, as a protection against danger from frost. This is a most

active time in the kitchen garden, and a well-ordered garden bears testimony to a pains-taking gardener.—SUBURBANUS.

GARDEN GOSSIP.

AT the MEETING OF THE ROYAL HORTICULTURAL SOCIETY on April 2, comparatively few subjects were shown, in consequence, probably, of the Ghent show being open. The most striking among the First-class certificated plants were *Amaryllis Crimson Banner*, from Mr. H. Little, of Hillingdon, a fine crimson in the way of *Akermannii pulcherrima*,—a variety which, by-the-by, made its mark long ago, and is often quoted from recollection as being superior to modern novelties, a position which an actual comparison does not always sustain. *Primrose Prince Charming*, from Mr. R. Dean, Ealing. A Botanical Commendation was given for *Masdevallia radiosa*, a curious species. Messrs. Veitch and Sons showed a fine collection of Orchids; and Mr. Lovesley, Spring Grove Lodge, Isleworth, was awarded a medal for a new dwarf compact strain of decorative Cinerarias. On April 16 one of the best displays of the season took place. First-class Certificates were awarded for *Caltha palustris fl. pl. minor*, a very double form of Marsh Marigold; and to *Saxifraga purpurascens*, a deep red, broad-leaved species, of showy character, both from Mr. Parker, of Tooting. *Grevillea robusta filicifolia*, from Messrs. Rollisson and Sons, of Tooting, a greenhouse shrub, with remarkably elegant foliage. *Crinum purpurascens*, from Messrs. Veitch and Sons, a dwarf species, from Fernando Po, with undulate leaves and narrow-petaled flowers. *Adiantum tetraphyllum gracile*, an elegant stove bipinnate fern, the young fronds of which are beautifully tinted with crimson; *Davallia fijiensis*, one of the most charming of the larger species of hare's-foot fern, the fronds being very finely cut; and *Lastrea aristata variegata*, a hardy evergreen fern from Japan, remarkable for its variegation, which consists of a yellowish-green band down the centre of the pinnæ, all from Mr. Bull, of Chelsea. *Amaryllis E. Pilgrim*, from Mr. B. S. Williams, of Holloway, a bright scarlet, with white striped-petals. *Wallichia zebra*, also from Mr. Williams, a beautiful palm, with a mottled stem. Mr. Barr exhibited a very fine collection of cut blooms of Narcissi; and many beautiful miscellaneous collections were staged. We may add that No. 4 of Vol. v. of the Society's *Journal* has recently been published, and shows, in its marked improvement on the recent issues, evidence of the beneficial supervision of the new Secretary, Mr. Jennings, by whom it is edited.

— **W**ITH the view to the revival of the taste for AMARYLLIDS, which are undoubtedly amongst the handsomest and grandest of our garden and hothouse bulbs, Colonel Trevor Clarke has been inviting exhibitions of them at the Royal Horticultural Society's meetings, and offers prizes of £5, £3, and £1, to be awarded at the end of the season, to the most meritorious contributors. The sums offered, he observes, are not of an ostentatious character, nor are they meant to be so, because it is desired that the competition should be considered less of a flower-show affair than as an appeal to the scientific instincts of the Fellows and exhibitors. The conditions imposed are four in number:—(1), The plants exhibited to be true species, to the best of the exhibitor's belief; (2), rare plants may be

shown in or out of flower; (3), plants exhibited need not necessarily be the property of the exhibitor; (4), cut flowers will be received, in cases where the plant itself will not admit of removal.

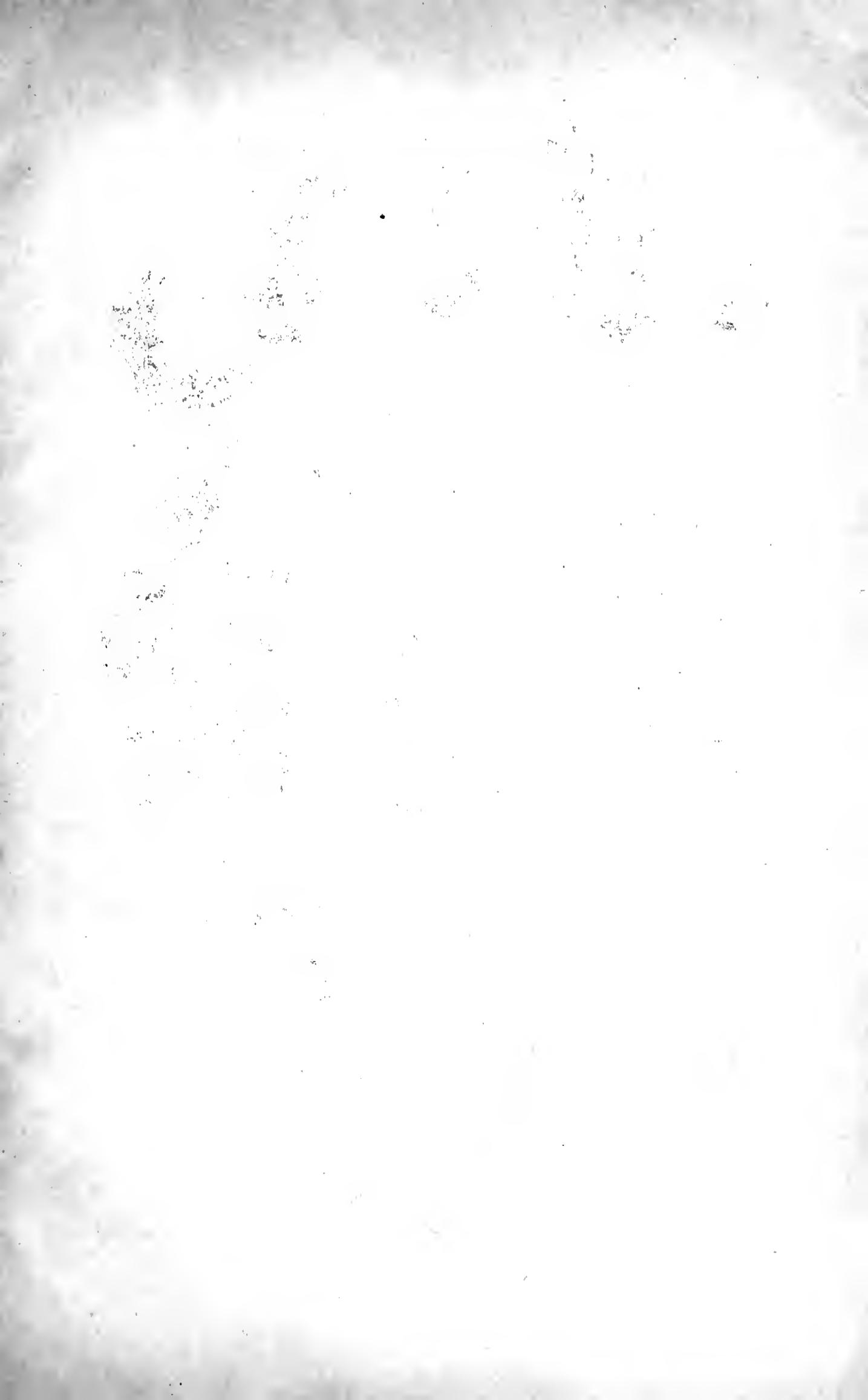
— **T**HE proprietor of the *Garden*, Mr. Robinson, proposes to give a series of PRIZES FOR ASPARAGUS, extending over a period of seven years, to be given in London, Dublin, and Edinburgh, and in the north and west of England, in consecutive years. The chief object in instituting these prizes is to have the mode of culture which is so successful in the vicinity of Paris thoroughly tested in all parts of this country. While the French plan is recommended for trial, competitors are not to be bound by it, but may adopt whatever plan they may consider best and most suitable to their soil and locality.

— **A**CCORDING to Mr. Gilbert, of Burghley, BARR'S CRITERION CABBAGE is a most excellent early cabbage. Sown on July 17th and planted out on September 2nd, it produces beautiful little hearts in abundance by the beginning of March. Carter's Heartwell Dwarf Imperial, sown and planted at the same time, though sturdy plants, were not fit to cut before the end of April, thus losing a crop, and that the best of all kitchen-garden crops—viz., Myatt's petatos. The ground on which the Criterion was grown was dug between the 20th and 25th of March, and was planted early in April with Myatt's Prolific Potato.

— **A**TT the PARIS EXHIBITION of 1878, Messrs. Sutton and Sons' stand will contain one of the most exhaustive displays of Horticultural and Agricultural Produce ever brought together. Messrs. Sutton have been actively engaged for nearly 12 months in preparing their stand, which is 95 feet in length, is to accommodate more than two thousand models from nature of the principal kinds of Agricultural and Horticultural plants and roots, in addition to nearly 500 specimens of Permanent Pasture Grasses, as well as 800 samples of seeds. The display occupies a large portion of one of the extensive buildings erected at the special desire of H.R.H. the President, for illustrations of English Agriculture. In the Exhibition grounds nearly three acres have been sown with Messrs. Sutton's Grass seeds, which are now rapidly forming a beautiful sward.

— **M**R. POLLARD, of Exeter, is about to publish a small demy-8vo volume, *The Plant-Lore and Garden-Craft of Shakespeare*, by Rev. Henry N. Ellacombe, M.A., Vicar of Bitton, Gloucestershire. In this work every passage is quoted in which Shakespeare names any tree, plant, flower, or vegetable production. A short account of each is given, identifying Shakespeare's plants with their modern representatives, with illustrations from contemporary writers, and notices of any points of literary, botanical, and historical interest connected with the plants named.

— **T**HE ROYAL NATIONAL TULIP SOCIETY will hold its next exhibition in the Manchester Botanical Gardens, on June 1. The making-up meeting will be held on May 4, at 3 p.m., at the Bull's Head Inn, Market Place, Manchester; and all entries must be sent in on or before May 11. The Prize Schedule has been issued, and may be had on application to the Hon. Secretary, S. Barlow, Esq., Stakehill House, Chadderton, Manchester.





C T Rosenberg, del.

Chromo. Stroobant, Ghent.

Zonal Pelargoniums:
1. Lady Eva Campbell 2. Dr Denny.

NEW ZONAL PELARGONIUMS.

[PLATE 468.]

ON the accompanying plate we give illustrations of two of the most advanced Pelargoniums of the Zonal race of which we have any knowledge.

Fig. 1 represents LADY EVA CAMPBELL, one of Mr. Pearson's flowers, and a variety of great beauty, considered by connoisseurs to be the best in its particular colour yet obtained. Mr. Cannell describes it as "the deepest of any in its class; splendid shaped pip, very large and grand." It is in all respects a most charming flower, especially adapted for pot-culture.

Fig. 2 represents DR. JOHN DENNY, a most distinct and startling novelty, raised by M. Jean Sisley, of Lyons, who has obligingly sent us the following particulars of its origin:—

"I am very glad to learn that my Zonal Pelargonium *Dr. John Denny* has been judged worthy of being illustrated in the *FLORIST*, the more so that I am not over-partial to my own offspring. Not being a botanist, it is difficult for me to give you a faithful description of it. It is, as far as I know, the most purple-tinted and nearest to blue of any Zonal in existence. The flowers are large and of good form, the trusses are rather large, and it appears

to be a free bloomer. Its origin is rather strange. It is a seedling from a double-flowered Zonal of my seedlings, the flowers of which are dark red, a dwarf plant, and abundant bloomer, which I artificially fecundated with the pollen of *Pelargonium peltatum lilacinum*, single, with lilac flowers. It was sown in 1875, and bloomed in 1876. I was struck with the colour of it, but at the time did not think much of it, until Alegatiere, one of our most intelligent horticulturists, came to see me. I gave it him, and he sent a plant of it to Mr. H. Cannell, who exhibited it last year at a meeting of the *Pelargonium Society*, where, it seems, it was appreciated. Although fecundated by a *Peltatum*, it has no signs of it, except the colour. But I have had many instances of the same. Having fecundated many *Peltatums* by *Zonals*, they always resemble the mother, and generally also the *Zonals* fecundated by *Peltatum*; nevertheless, I have two Hybrids, partaking of both. I will send one to the next exhibition of the *Pelargonium Society*."

This flower is not only remarkable for the purplish hue of its petals, but also for the dash of bright orange-scarlet at the base of the upper petals. We have to thank Mr. Cannell for the materials from which both figures have been prepared.—T. MOORE.

THE REV. G. JEANS ON THE PHILOSOPHY OF FLORISTS' FLOWERS.

No. III.

"HOPE you are a botanist. I know some eminent florists who are so, and more than one really good botanist who duly appreciates floriculture. But as the agriculturist is proverbially a despiser of his garden, because of the larger results he is accustomed to deal with in his farm, so is it oftentimes with the botanist, and therefore I must have a word with him.

"III. His objection is not likely to become general, because it involves some labour to be bestowed on the subject, before its force will be perceived. But yet I have heard it oftener than might be expected, probably because the outlines of every science are now so generally known. It is to the effect that floriculture (I mean that of fancy flowers) is, as a study, a *descent* from nature, and a degradation to it; and as an art, is essentially unscientific, and fit only for children. Our whole system, he says,

is conversant about *varieties*,—things of small account, in any case; while such as we covet ought not to exist at all, departures as they are, he says, from nature, and interferences with the habits of the plants.

"That these charges should be made in good-faith by those who only see floriculture from their supercilious distance is not surprising; since there is an appearance of truth in them; but that they will not stand examination will be admitted by those who maintain that there is a foundation for the preceding remarks. However, they require, and they deserve, a more particular notice appropriated to themselves.

"It is not contended that the labours of the florist ought to be placed in the same rank with those of the botanist. We do not pretend that our pursuit is not of an inferior order to his; indeed, it arises out of and is dependent on it. But we cannot allow that it is either unnatural or unscientific; nor even that its own peculiar science, in the smaller area to which it is confined, is not to the full as perfect

and as pure as that of botany. The comprehensive survey of nature is his; the improvement of a few of the units out of his catalogue is ours; and to inquire into the best method of doing this may be found to demand scientific knowledge as high as that required for the more extended field of observation in discriminating between orders and genera, and the resemblances and differences of plants.

“ Few who had not previously paid attention to the subject can have read Mr. Story’s interesting articles on the hybridisation of the Erica (FLORIST, i. 314) without perceiving that, for the successful pursuit of that practice, more of knowledge, and thought, and judgment, as well as of skill and patience, is required than he expected; that less is due to chance, and more to system; that a collection of facts, and a comparison of results, are needed; and arising out of this, a suitable variation of method according to circumstances; in other words, that it demands a scientific adaptation of means to produce a desired end. And it will presently be my business to show that this desired end itself is equally founded on physical facts, and reducible to rule; and that the alterations sought by florists in the petals and habits of certain flowering plants are no more open to the objections of the scientific botanist, than they are to those which have already been considered.

“ Neither is it justly alleged that either the end or the means used to attain it are *unnatural*. We are told, for instance, that the many thousand varieties of our Roses are, botanically, the same individual under so many thousands of fantastic dresses, and none of them natural, or conducive to the welfare of the species, or the more perfect development of its parts. On the contrary, that the greater number of them can never perfect their seeds, owing to the production of double flowers by the conversion of stamens into petals. This might have some weight, but that it entirely rests on a fallacy, which it is of some importance to notice. The Rose was not *made for itself*, nor is its place in creation only to produce seeds or to propagate its kind. It is a misunderstanding of the goodness of the Creator to overlook the fact that, like ourselves and every other part of God’s works, it was made for others as well as itself; and that one part of its design was, to please the eye of the beholder, as of fruits to please the palate of the eater. Why, else, the otherwise useless enlargement of the petals of many, their elegant forms, their varied and brilliant colours? No one can say that any of these things minister, except in a small and questionable degree, to the welfare of the plant or of its seeds, any more than the grateful scent of the Mignonette or of the Violet does to theirs, or the lusciousness of the drupe of the apricot or of the peach does to theirs.

These additions to the necessary parts of fructification were for the sole advantage of others; those that please the eye or the smelling seem to have been made for the sole pleasure of man, and it appears to have been the purpose of God in them to minister to his gratification alone. And if some species of flowers are found by experience to be capable of developing by cultivation greater powers of pleasing the eye than are possessed by the uncultivated natural specimen, there is nothing *unnatural* in pushing that development as far as it will go, and thus bringing forth into light the extent to which it was meant to fulfil that particular purpose of its creation.

“ That the arts used for this purpose are not unnatural may be seen in the analogous instance of cultivated fruits. The apple, for instance, is one of those trees ‘whose seed is in itself.’ Around that seed is a fleshy envelope, pleasant to the eye, fragrant to the smell, and good for food; none of which qualities add to the perfection or security of the seed, but are intended for the use and gratification of men and animals. But this is not so with all the produce of those seeds of the tree, or anything like it. Sow the seeds, and under the most favourable circumstances, not above one in five hundred of the plants that spring from them can be expected to be worth cultivating for its own fruit. Are all the rest, then, useless? By no means. They are for an important purpose, in the economy of man’s sustenance from the fruits of the field. They undergo (by grafting) an operation much more startlingly unnatural, at first view, than is the hybridisation of the Erica, and the Crabstock is made to sustain the bearing wood of choicer kinds instead of its own,—

“ *Miraturque novas frondes, et non sua poma;*”* while the plants that spring from the successful seeds become the parents of new varieties, as numerous as those of the Ranunculus or the Pelargonium. This apparently unnatural process is both natural and necessary. And as the time when it was first practised is hidden in the mists of the remotest antiquity, and as it was anciently in use among nations unconnected with each other, and as each ascribed the discovery to its founder or to some god, it is probable that it was taught of God to our first father, when the original curse upon the ground and all its productions, for man’s sin, made labour the condition of his bread.

“ This is rendered the more probable by the distinct claim made in Isaiah (xxviii. 23-29), for the teaching of the art of husbandry to man by the Creator,—an art which supplies us with a still stronger instance in point than the foregoing.

* “ And wonders at the strange foliage, and fruit not its own.”

"The most useful, or rather necessary, of all vegetable productions to man, the *Cerealia* (plants which produce the 'breadstuffs' of the American vocabulary), appear to be almost all of them of the class most abhorrent to the botanist,—*hybrids*. At least the native original of many of them is, I believe, unknown, and of others would not be recognised except by a botanist. Cultivation during the course of four thousand years, and a care bestowed upon improving the seed, like that which the florist practises upon the *Fuchsia* or the *Calceolaria*, have made them what they now are. There can, therefore, be nothing unnatural in the art which has brought into being, or at least to its present state of perfection, the staff of human life.

"And if the end aimed at in improving the petals of a *Dianthus* be of less importance to the welfare of man than in improving the seed of a *Carex*, yet the mode by which it is effected being the same in both cases, what is right in the one case cannot be wrong in the other. If it is not unnatural in the fruit, neither is it in the flower. That art is in perfect analogy with all the other consequences of our condition as children of Adam,—a condition which requires at our hands a laborious compulsion of nature to yield up to our importunities the riches it is entrusted with for our use.—IOTA."

A GOSSIP ON TULIP-SHOWING.

 An opening to this Gossip, I will repeat a question which I put to the Tulip-growers of England more than 20 years since, which was as follows:—Can any one give a sound reason why we do not tolerate two classes of varieties amongst yellow-ground Tulips, in like manner as we admit two classes amongst the white-ground flowers? My own opinion is that there is just as much room for two classes of yellow grounds as there is for two classes of white grounds. I say, separate the red-marked Bizarres from those with the dark marking, just as the varieties of the Rose class are separated from those termed Byblœmens. At the time I first broached this subject, I had the major part of my Southern friends in favour of it. During my Tulip bloom last year, a French gentleman—a florist, whose chief hobbies are Tulips and Picotees—having business in Huddersfield, came twice to see my flowers. The last time he was here I cut sixteen flowers, which he took away with him; but previous to doing so, he made them into a fourth-row stand, after the style in which

they are exhibited in his part of the country, placing them as indicated below:—

4	Dk-flamed Bizarro.	Dk-feath. Bizarre.	Dk-flamed Bizarro.	Dk-feath. Bizarro.
3	Red-feath. Bizarro.	Red-flamed Bizarre.	Red-feath. Bizarro.	Red-flamed Bizarro.
2	Flamed Byblœmen.	Feathered Byblœmen.	Flamed Byblœmen.	Feathered Byblœmen.
1	Feathered Rose.	Flamed Rose.	Feathered Rose.	Flamed Rose.
	1	2	3	4

I thought they looked very well indeed. I do not know how far this style of placing the flowers might suit the taste of our Northern exhibitors, but one thing I am certain of, that by their being arranged after this fashion, they would be much handier for the judges on the show-days, and they would be examined in much less time, which is of importance on our national show-days, when the judges should have finished their work previous to the public being admitted.

There are a few other little matters in connection with exhibiting Tulips on which I should like to say a word, not in the least degree with any desire to dictate, but merely as affording suggestions which happen to lie within my own breast. Every individual has just the same right to his own opinions; I only claim to say for myself that in the exhibiting of Tulips, I think it possible for improvements to be made, and when I have set them forth, I leave it to others to approve or disapprove of them.

In class-showing, I should say six flowers would be quite sufficient to run them to, if they are to be really good flowers, worthy of being thus prominently placed.

For pan and stand-showing, I should propose for the stands containing the largest number of flowers, sixteen different varieties, four times four, chosen from the four different classes, viz.,—feathered and flamed Roses, Byblœmens, Red Bizarres, and Dark Bizarres, and for these allow three prizes; for stands of twelve flowers, three prizes; for stands of nine flowers, three prizes. For stands of six flowers, and for stands of flowers below six in number, I should say let a majority of the exhibitors themselves settle how and in what way those stands shall be arranged, one main consideration being how

far the funds will hold out for awarding prizes.

One further suggestion is that, instead of awarding the main bulk of the money to just a few of the leading stands, the first prize, for instance, should be curtailed, so as to bring it down nearer to the level of those which have to follow. Honour, if there be any, I should say, ought to be considered quite as much as the money value in these cases; while as an encouragement, a little more money might be given to after-stands, and in the classes, since by doing so encouragement would be given to the younger and poorer classes of growers, who have the fancy at heart equally with their more fortunate friends.—JOHN HEPWORTH, *Crofton Moor, Huddersfield.*

ANTS, SLUGS, AND COCK-CHAFERS.

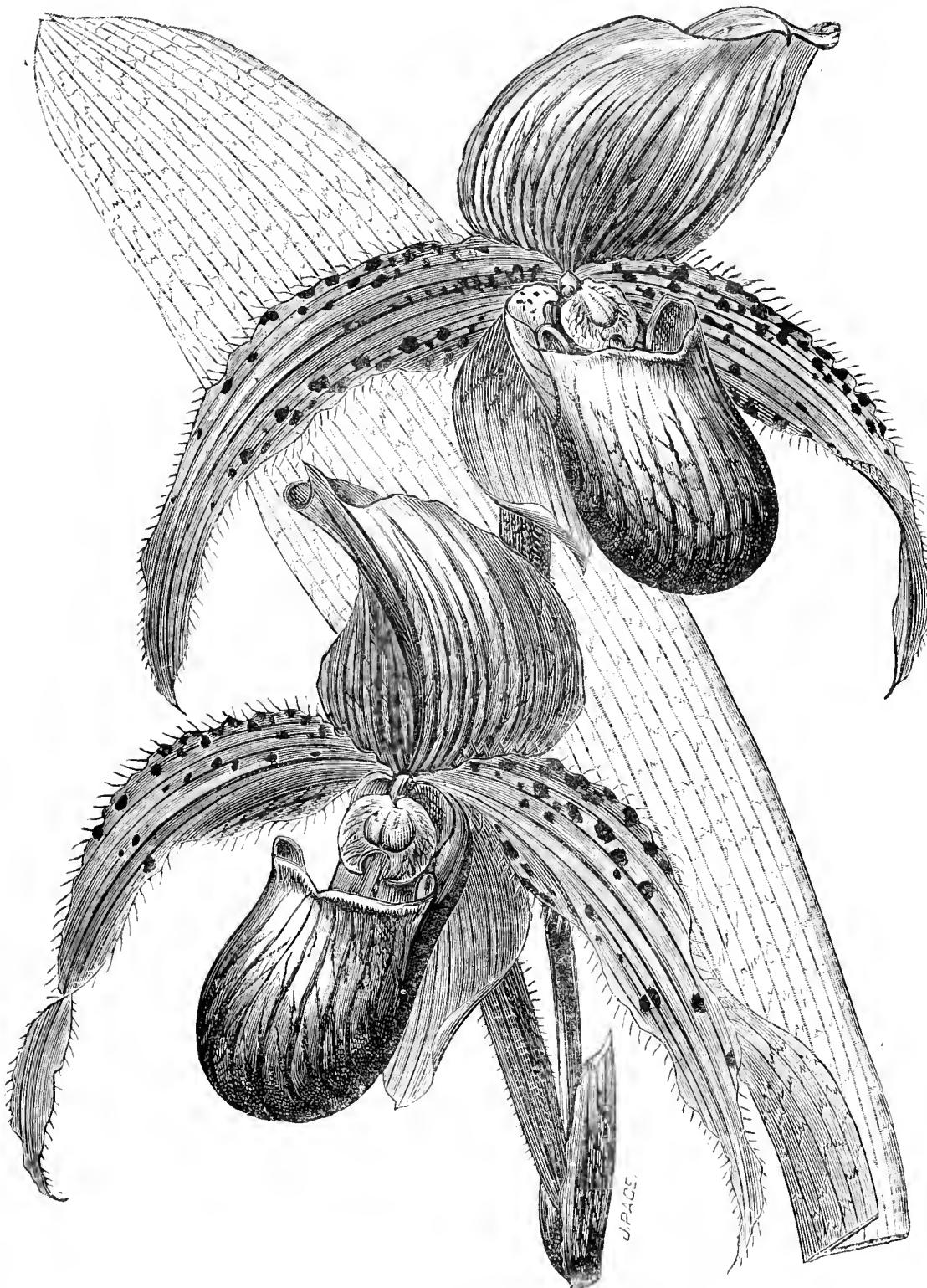
SILD winters like the past bequeath to us a crowd of insect and other pests, which are not exactly sources of happiness to the gardener, rather the contrary. The ants, so abundant last year, reappear, the slugs swarm, and for many years there has not been such an abundance of May-bugs (Chafers).

To drive away the ants, guano or minced garlic spread on their nests has been spoken of as efficacious, but guano has not proved infallible, and the garlic and ants sometimes keep house together. I only know a single sure means of clearing out these laborious, but troublesome pests,—namely, in the evening, after they have entered their lodging, or in the morning before they go out of it, to drive a pointed stick into the middle of their nest, and to pour boiling water immediately and repeatedly into the hole; if some escape, repeat the operation next day. This procedure is not, indeed, always applicable, as boiling water would kill both plants and insects with which it came in contact, but it can generally be put in practice when the ants' nests are in the open garden.

The measures proposed for the destruction of slugs, which are amongst the most dreaded enemies of gardeners, are numerous. I have lately read that they are fond of beer, and that if plates filled with beer are set in the garden, they will be attracted, and drown themselves. I have not tried this remedy. The use of bran, of which slugs are very fond, and with which

they are said to choke themselves so as not to be able to move, has also been recommended; but though very gluttonous, are they capable of this excess? Others advise making little dépôts of cabbage or lettuce leaves, sheltered by a board slightly raised from the north side, under which, at the approach of day, they retire, and may be caught and destroyed. This may serve those who have little to do, or whose gardens are small, but will not suit those who are more closely occupied, or whose gardens are more extensive. Especially will it fail to get rid of those multitudes of microscopic and unseizable slugs which are the most dangerous, and of which, to clear a garden promptly, some recently slaked, very caustic lime should be scattered over the surface in the evening, or rather, early in the morning, not on a single border or bed, but over all the ground, including paths and alleys. This inexpensive remedy, repeated two or three times, will in a week destroy more slugs than will be got rid of in a year by all other methods put together.

The May-bug or Chafer is most hurtful in the larva state under ground, where, in the form of a white worm (*ver blanc*), it carries on its depredations, gnawing the roots of plants, the worst of which is that often the damage is only perceived when it has become irreparable. It is said that the chafer moves but little from the place where it was hatched, and that if means were taken to destroy it before it deposits its eggs, the numbers of the larvæ, and consequently the extent of the ravages, would be very much diminished. This is too generally neglected, under the pretext that it would produce no result, or that it would be too expensive, which is erroneous. In Algeria, the grasshoppers, which at certain times abound and commit great havoc, are collected, lightly dried in an oven, completely dried in the sun, and reduced to powder, in which form they constitute a very powerful manure, which has given the best results wherever it has been employed. The chafer so treated would constitute an equally powerful manure, which would amply pay the expenses of collecting, and which would clear us of a great portion of the white worms into the bargain. A man and some children, furnished with a bag surmounted by a large funnel of zinc or tin, would accomplish the work.—D. LOUMAYE, *Huy.* (Abridged from the *Bulletin Horticole.*)



CYPRIPEDIUM SELLIGERUM.

THIS is one of the many fine hybrid Lady's Slippers raised in the nursery of Messrs. Veitch and Sons, of Chelsea, by their foreman, Mr. Seden. It was raised between *C. barbatum* and *C. levigatum*, but is quite distinct in character, and is a very handsome form, and in evidence of this it may be mentioned that it has gained two First-class

Certificates of merit, one from the Royal Botanic, and the other from the Royal Horticultural Society. The accompanying woodcut is from Messrs. Veitch's *Catalogue*. The habit of the plant is bold and massive, since it possesses a vigorous constitution. The leaves are ligulate, broader than in *C. levigatum*, and show but faintly the markings and mottled

appearance of *C. barbatum*. The seape, which is erect, and of a blackish-erimso, densely clothed with pinkish pubescence, supports two or three flowers, which are larger than those of either parent. The dorsal sepal is white, with broad, blackish-erimso veins, while the combined lower sepals are smaller and whitish. The petals are about three inches long, deflexed, with a partial twist, and traversed by erimso veins. The lip or pouch is nearly as in *C. barbatum*, but lighter in colour.—T. MOORE.

THE CULTURE OF WALLFRUITS.

CHAPTER XIV.—THE APRICOT (*continued*).

HEATSOEVER materials with which to form the compost for the borders may be available, or which can be selected, if there is choice, they should be collected into a heap during summer, and turned over once or twice, so that they may be in readiness to wheel on to the ground early in October, at which time the trees should be planted. If these latter have to be obtained from a nursery, it would be wise to select them personally a month or six weeks before the planting time, so as to secure a good choice. So far as my experience goes, the trees I should recommend are those which have been only once headed back from the maiden state, and have formed equally-balanced heads of nine or seven branches—viz., one centre shoot, and three or four on each side, as the case may be. The centre-shoot will always be the strongest, which will be found an advantage in the after-management. In planting, tread the border down firmly below the tree, and remove just sufficient earth for spreading out the roots, so that the collar—that is, the point where roots and branches meet—when placed in position, may be raised from four to six inches above the general level—quite six inches in clayey or stiff soil, but in lighter porous soil four inches will suffice. Lay out the roots carefully, and cover them well over; fasten the branches to the wall lightly, to allow for sinking; and muleh the surface over with light litter.

The importanee of planting thus early cannot be too strongly enforced, because at that season the foliage, having performed its functions, is about to decay and fall, thereby leaving the branchees in a eomparative state of rest, to ripen off. But although dormant above, there will be for the next month or six weeks a strong root-

action, of which this early planting is intended to take advantage, so that there will be almost a clear gain of a year's growth over a tree planted, we will say, in March.

The temperature of the earth at the two seasons will sufficiently indicate why this should be the case. October, being, as it were, the end of summer, and retaining in the earth the vivifying influences of the sun's heat, has a ground-temperature which is sufficient to induce in a carefullly-planted young tree an immediate emission of roots, thus placing the trees in the most natural condition possible, and enabling them in the best manner to resist the effects of the violent disruption caused by lifting and transplanting. Again, owing to the reciprocal action between the roots below and the growth above, these roots formed in the autumn will supply that vital force which will enable the tree to break forth into an equal growth in the spring, so that there will be no necessity to carry out the common practice of heading the tree back severely; while the judicious management of the after-growth will essentially contribute to the maintenance of the balance between the roots and branches, by which the commencement of a fruitful habit of growth is made, and the tree is certainly one year, often two or three years, in advance, as regards the production of fruit, over a tree later planted, and closely headed back. This latter operation must, indeed, always be performed in the case of late-planted trees, as if the shoots are left at their full length they have a strong tendency to break only at their extremities; and in order to keep the tree "at home," as is sometimes said, these must be considerably shortened, the result of which will very often be a series of strong-growing, luxuriant, and unfruitful branches, requiring a considerable amount of restrictive management, by way of pinching-back, to keep them at all within bounds. But then, again, if this is carried too far, the healthy action of the roots is checked, and the foundation of a premature debility laid; whilst, on the contrary, if left unchecke, they grow away rampantly for a few years, and before fruit-bearing can be induce, they must go through the operation of violent disruption by lifting and replanting.

All this points to the real economy of early planting, by which, with care, the trees can be

fairly started on a fruitful habit of growth ; and the sooner in the life of the tree this tendency can be induced, the less liability will there be of its breaking out into an over-luxuriant state, and thus the operation of root-pruning will become unnecessary.—JOHN COX, *Redleaf*.

AMERICAN BLACKBERRIES AND RASPBERRIES.

I HAVE had sent me during the past autumn from America, a Blackberry, named the *Kittatinny*, said to be one of their best sorts ; likewise a Raspberry named the *Reliance*, said to be a new seedling lately sent out, a great bearer, and of a large size and fine flavour. I intend giving them a fair trial, but whether it is that our climate does not suit American Blackberries, I have never been able to grow the *Lawton* variety satisfactorily. In America, both Blackberries and Raspberries, as we learn from the horticultural publications, are grown now in immense quantities, to supply the markets. The Strawberry is likewise in great demand, and numbers of new seedlings are yearly advertised for sale by nurserymen and others.

We have in our Parsley-leaved Blackberry a variety well worthy of being more cultivated than it is, for its fruit is considerably larger than the wild sort, and better flavoured. It can be grown, like Raspberries, in rows, tied to stakes in the same way, and not allowed to ramble about too much. In growing it, I usually select young shoots from the old plants, and put in a fresh row or two every autumn, so as always to have the plants in a good bearing state, as the old shoots get too large and unproductive after a few years' growth. One of the best preserves I know of is made from the fruit of the Blackberry, mixed with a few rather acid apples.—WILLIAM TILLERY, *Welbeck*.

YUCCA FILAMENTOSA VARIEGATA.

F the many variegated subjects that have been brought into more general notice since the merits of fine-leaved plants became fully appreciated in this country, there are few that attain a medium size more beautiful, or more deserving of cultivation, than this. If proof were wanting as to the influence which fashion has upon demand, and

through that upon value, I could not point to a better plant than this to afford it, for though it has been long in cultivation, and for the last twenty years has been propagated as quickly as the means and knowledge of the many who have taken it in hand would permit of, it is yet both scarce and dear, small trade plants being worth a guinea, and I have known within the last few years as much as twenty guineas paid for a fine, fully grown example.

It is, in all probability, a sport from the American green-leaved species, *Y. filamentosa*, but how or where the variegated form originated, I have not been able to learn. The plant, like a few others in cultivation, is extremely exceptional, in a property which few representatives of the vegetable kingdom possess,—that is, its ability to thrive well continuously under a very wide range of temperature. It is hardy in most places throughout this country, where the soil is not of an exceptionally damp, retentive description, or the humidity is such as to induce growth of a character not calculated to withstand our severest frosts. Yet although thus hardy, it will bear keeping altogether in a temperature almost as high as most plants in cultivation, provided it is accommodated with a light position, and not too much darkened by overshadowing, or the light obscured by other plants overhanging it. So far from suffering through a high temperature, it attains a size and beauty in proportion very much greater than it can possibly arrive at by open-air culture. In fact, the best specimens I have ever seen out-of-doors are altogether wanting in the graceful curvature of the leaves, the pure white in their variegation, and do not attain to more than a fourth of the size of plants subjected to stove treatment.

As might naturally be supposed, its growth out-of-doors is very much slower than when in heat, neither can it be increased at anything like the same rate in the open air. It propagates readily from root-cuttings, which may be taken off at different times in the year, but I have found about the end of July the best, inasmuch as the season's root-growth about this time (I am of course now speaking of plants grown in heat), is sufficiently matured for the purpose. Another advantage is that the plants

that have been thus partially divested of their roots to make stock have time to form more fibres and get established before winter, in a way not admissible if the operation was performed later on; and if the disrooting thus necessary is done early in the spring, it has a serious effect in checking top-growth.

I may here observe that the removal of roots for stock purposes should never be attempted with a plant that has not attained a moderate size and strength, otherwise the check will be proportionately greater, and the roots removed will not be sufficiently strong to break shoots that will form plants calculated to grow away freely. The method of procedure is to turn the plants about to be operated upon out of the pots, allowing the soil previously to have got a little dry, so that it will crumble away, without breaking more than is unavoidable of the small fibres; remove the crocks from the bottom, laying the plants down on the potting-bench, and with the fingers gradually working the whole of the soil away from amongst the roots—in fact, literally effecting that which is understood by completely shaking-out, with the least possible mutilation. When thus divested of the soil, the plants will be found to consist of a stout, underground stem, more or less in length, and generally descending perpendicularly. This in healthy specimens will be studded from bottom to top with roots occupying a horizontal position. It is the strongest of these from which the future plants are to be made. They should be removed with a keen-edged knife close to the main stem; the removal may extend to from one-half to two-thirds of the amount of roots the plants possess, in all cases taking the strongest. As soon as these are disentangled and got away, the plants should immediately be placed in smaller pots. They will thrive in either peat or loam, but I prefer the latter, when of a good free nature, using with it enough sand to make the whole porous, and such as will easily crumble to pieces,—a matter necessary to keep in sight for similar shakings-out at a future time, as if the material used is at all of a close adhesive nature, it cannot be removed from the roots without breaking them considerably. Usually pots two-thirds the size of those they have already occupied will be big enough. Pot firm, and place the plants

in a brisk growing temperature, in a comparatively close atmosphere, for a few weeks, until the roots again begin to work.

The roots to produce the young stock should at once be cut into lengths of from three-quarters to one inch each, the thicker portions being reduced to the former and the thinner ones to the latter size. Prepare a pan or pans, according to the number of cuttings, by sufficiently draining, and two-thirds filling with fine sandy soil, the remainder filled up with clean silver-sand; in this insert the cuttings an inch apart, just leaving the upper end on a level with the surface. Sprinkle slightly overhead with the syringe, and remove the pans directly to the stove, or propagating-pit. If loose sheets of glass are placed over the pans, it will prevent evaporation, and obviate the necessity of giving much water, which it is better to avoid until growth has commenced. For the same purpose, shade in sunny weather. In a few weeks they will begin to grow, when by degrees remove the glasses, giving more air and water. The young leaves first made will be very small, such as follow will gradually increase in size. As soon as they have made two or three, each an inch long, put them singly into small pots, using fine soil, similar to that advised for the cuttings, only with less sand, in the place of which add a little leaf-mould. They should be kept in the stove through the winter, stood on ashes or some moisture-holding material, as if stood on bare shelves, the little pots are apt to get dried up. A night temperature through the winter of 60° will suit them, with a little more by day. In the spring, when growth has fairly commenced, and the small pots are tolerably full of roots, move into others a size or two larger, using soil such as before recommended. They should now, if possible, occupy a position on the side stage up to the glass, where they will get plenty of light, increasing the temperature as required for the general occupants of the house.

The treatment henceforward will be of a routine character, simply giving more root-room as needed. A large well-developed specimen will do with a pot 15 in. or 16 in. in diameter. After being fairly established, manure-water once or twice a week will be a great advantage.

Returning to the old plants from which the



Macfarlane del.

G Severeyns. Chromolith Brussels.

Peach Golden Frogmore.

young stock was obtained, if all has gone well, they will require more room the spring following. In this case, remove any of the bottom leaves that have decayed, and sink the plants lower in the pot. They should be grown on freely through the summer. The disrooting for propagation may take place every other year, and as the strong underground stem gets longer, a portion of it may be cut away, reducing it to inch-lengths, which will form stout plants in less time than the side-roots. When the specimens have attained a useful size, they are beautiful objects for greenhouse or conservatory decoration, in which position they may be kept wholly or through the summer months, transferring them to more warmth during the autumn and winter, where they will keep on growing. But nothing is gained by too long abstaining from interference with the roots for propagating purposes, as in this case, when the plants get strong, they will throw up bloom-stems which, looked at from a point of increasing the stock, is a serious drawback.

If ever this plant gets sufficiently plentiful, it will be a grand market subject, as a more beautiful object for halls and rooms it is difficult to imagine.—T. BAINES, *Southgate*.

THE FROGMORE GOLDEN PEACH.

[PLATE 469.]

HIS handsome Peach, as its name implies, originated in the Royal Gardens, Frogmore, a few years ago, and is the result of a cross between the Bellegarde Peach and Pitmaston Orange Nectarine, from which latter parent it inherits its yellow flesh.

The fruit is of the medium size, usually a little larger than it is represented in our figure [from specimens obligingly sent us by the Rev. W. F. Radclyffe, from his gardens at Okeford Fitzpaine]. It is evenly shaped, having a shallow suture, and is but slightly indented at the crown. The skin is of a dark brownish red, when fully exposed to the sun, fading off to a golden yellow when shaded. The flesh is tender, fine-grained, and of a yellow hue, except near the stone, where it is tinged with red. It parts freely from the stone, and is of good quality, with a fine peach-flavour.

The trees are of a free and healthy habit,

and not at all subject to mildew. It belongs to the section producing large flowers, and is provided with smooth leaves, having globose glands. The flowers are of a deep pink colour, so that when in blossom the tree forms an object quite worthy of admiration.—J. POWELL, *Frogmore*.

MARKET PLANTS.—IV.

Poinsettia pulcherrima.

O plant is more attractive and useful as a decorative agent than the glorious *Poinsettia pulcherrima*, all the more valuable, because its richly tinted vermillion bracts can be had in their most lustrous radiance at Christmas, when bright colours are most acceptable, and their warmth and life contrast so well with the dreariness without-doors.

A few market cultivators excel in the production of this fine plant. They grow it by the thousand, and not only find an outlet for their productions in the London flower-markets, but applications for plants come from Newcastle-on-Tyne, Manchester, Birmingham, and other great industrial centres.

The most remarkable feature is the short time required to bring these plants to perfection—about nine months. Stock plants are kept from which to obtain cuttings; these are had in May, and as soon as taken are put singly in thumb-pots, and the pots placed in a brisk bottom-heat, in one of those close-frames found in the low propagating houses in market-growing establishments, which from one year's end to the other unceasingly illustrate unremitting activities. All market-growing work is done at high pressure—every workman appears thoroughly in earnest. The attention is directed to the production of a certain number of things, in given proportions, at the proper time, and every day witnesses a substantial advance made towards this desired end. In about a couple of weeks the cuttings begin to make roots, and at this point they are constantly examined, and if any are found to have rooted, they are lifted out of the hot-bed, and the pots placed on a dry, warm stage, near the glass. Mr. John Reeves, of Aeton, one of the most extensive and successful growers of the *Poinsettia*, regards this as a somewhat critical time for the rooted plants, for “singular as the statement

may appear; yet it is found to be a correct one in practice: if the young plants are allowed to remain plunged in bottom-heat, after being rooted, they are very apt to rot off close to the soil."

When the plants have rooted nicely into the cutting-pots, they are, after being hardened off a little, taken to one of those long low span-roofed houses which appear to be inseparable from the production of market-plants, and kept a little close. At the end of July, or early in August, as opportunity serves, the plants are shifted in 48-sized—the blooming—pots, and this is the only shift the plants receive.

There is no mystery about the potting compost used. Some good sweet well-decomposed turfey loam, leaf-mould, and sand make up the soil. This is the regulation compost for a market establishment, with some manure added, for certain things.

From the time the plants are potted on, to that when they are ready for market, they are treated to a routine of constant attention; and this, combined with as complete a uniformity of temperature as possible, makes up the cultural process. The plants are freely watered—this is never grudged them—and as they approach maturity a little liquid cow-manure is occasionally administered. A dry bottom is considered of the first importance, and the stages on which the plants stand are so constructed as that the water freely passes away. A generous treatment, without any pretence at coddling, is given. There is no thought of starvation or a resting process to induce the production of the magnificent bracts. "The plants are never syringed overhead, and though near the glass, they are never shaded from the sun." As the days shorten, and the air becomes chilly, just sufficient fire-heat is maintained to impart a comfortable, but by no means heated or close atmosphere. "Air is plentifully given, at the same time, cold draughts of air should not play directly on the plants." The rule laid down by Mr. Reeves is to give plenty of air, as that intensifies the richness of colour and the solidity of the bracts.

The fitness of this temperate treatment is shown when the plants are taken to market or sent away to a distance. They bear exposure with something approaching impunity, for

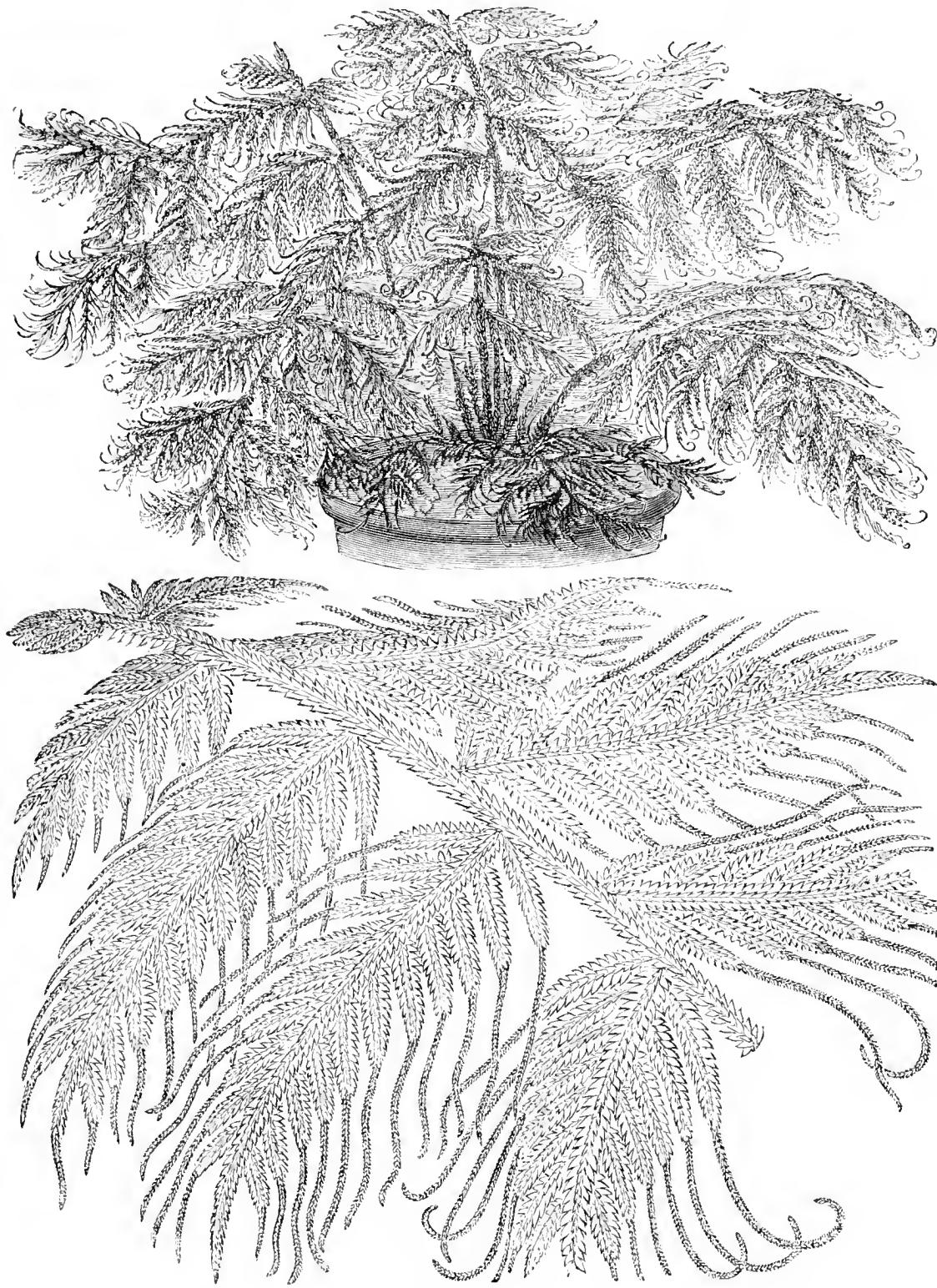
some plants sent at Christmas last to Newcastle-on-Tyne, and returned again through some informality, appeared little the worse for the long journey.

The white variety of the Poinsettia is but little grown for market, but the double form, by reason of its being some three weeks or a month later, promises to be extensively grown when it becomes more plentiful.—RICHARD DEAN, Ealing, IV.

SELAGINELLA VICTORIÆ.*

NE of the most beautiful of all the Club-mosses, having the general habit and aspect of *Selaginella Wallichii*, to which it is closely allied, though on comparison it is seen to be distinct, especially in the branches which are evenly pinnate, like the frond of a fern, but instead of diminishing gradually to the point, as in *S. Wallichii*, the branch is here formed of nearly equal-sized parallel branchlets, the terminal one being of the same size and form as the rest, resembling thus an imparipinnate leaf. The plant is evidently of scandent habit, like *S. Wallichii*, the old stems becoming somewhat woody at the base, and throwing out new shoots from the apex after a period of rest, the new shoot growing on as before. It has been imported by Mr. Bull from the South Sea Islands, and is known in herbaria from other Pacific stations, having been previously associated with *S. Wallichii*, from which the growing plants are at once seen to be distinct. It has a creeping caudex, from which the subscandent stem springs up at intervals. These stems produce the alternate ovate branches, which are flat and closely pinnate, remarkable for their symmetry of arrangement. The small ultimate branchlets are about an inch in length, terminated by a slender quadrangular spikelet, from 1 in. to $1\frac{1}{2}$ in. long or more. The colour of the fronds is a dark sap-green, the spikelets being somewhat paler. The accompanying figure, which scarcely does justice to the elegance of the plant, is from Mr. Bull's Catalogue, in which it is this year offered for the first time.—T. MOORE.

* *S. Victoriae*: stem scandent, 2-3 ft. or more, continued by new terminal growths, regularly branched, becoming bare below; branches flat, ovate, very regularly pinnate, not decrescent to the apex, but terminating in a branchlet similar to the rest; branchlets 3-16th of an inch wide, simple, those of the fertile branches about 1 inch long, set about 1-8th of an inch apart, the basal ones often forked; leaves oblong-falcate, entire, the anterior base cut away, the posterior produced; midrib distinct; intermediate leaves much smaller, semi-ovate acuminate parallel; spikes slender, tetragonal, terminating the branchlets, 1-2 inches long.



SELAGINELLA VICTORIAE.

NORTHERN SHOW OF THE NATIONAL AURICULA SOCIETY.

IT must have been with an intense feeling of relief that the Auricula exhibitors of the 30th of April turned their backs for ever upon the dismal, stuffy old Exhibition-room of the Hulme Town Hall, where the damaged daylight grew so ghastly pale and sickly, that it felt like an act of mercy to light

the gas, and put it out of its misery at once! Brighter prospects seemed before us in the spacious room allotted in the magnificent building of the great Town Hall. But the day turned dark and wet, the dirty old gloom crept in, and the dead-grey light had to be illuminated by some handsome spikes of that

capital night-flowering town plant, the gasometer, in full blow!

It was all in very sad, depressive contrast to the beautiful palace of light at Sydenham, where the air and sunshine are so free, and the gloom of the noon-tide so sweetly tempered to the delicate bloom by fleecy-white light shadings, that are made to float like clouds across the open spaces overhead. Manchester, with her mighty industries, perhaps, cannot keep her air more pure, and her fogs less like an aerial soup; but she has better accommodation for intramural flower-shows than any she will grant at present, and it is but worthy of the great fame the smoke-dried city has for the quality and magnificence of these exhibitions, that she should afford the plants and the public the advantages of the best available space.

The flowers were shown in fair condition, but all the season through, the bloom has, neither north nor south, been of so high a quality as last year; and some of the great Auriculas, notably Lancashire Hero and George Lightbody, have not put forth their splendid powers.

I hardly agree in thinking with "D., Deal," that "there was a freshness and a brightness here which would be vainly sought for among the plants at the Southern Show." There were many bright young flowers, but so there were also in the South. In fact, at Manchester Mr. Simonite, who, among other winnings, led the first two classes, had actually to largely use his London plants over again, which must, therefore, presumably, have been fresh and bright enough almost a week before. Mr. D'Ombrain also remarks that he "cannot believe in the freshness of Auriculas opened in 60° of heat, and brought up there a couple of hundred of miles, and two or three days out of their pots."

Well, they somehow are brought fresh, but this is not exactly what they have gone through. The Southern growers were already forward enough for the Palace Show, so were my own flowers; in fact, many of my selfs and earlier edged flowers were too far gone, and I, for one, certainly never used 60° of heat. I fought very hard against it on sunny days, but was once driven to 65°. A man must be in an uncomfortable hurry who cares to bloom his auriculas above 55°. Neither are

our Northern plants in London two or three days out of their pots before-hand. I sit up all night, and pack mine by the morning before the show. The distance, alas! I cannot deny.

It was feared there would be a short bloom for Manchester, but it is wonderful how bravely a flower like the Auricula will endeavour to come up to time. Mr. Wilson had almost despaired of getting anything out, but with a touch of kindly weather the plants were quickly ready, while other growers, who wrote to me dolefully declining labels, drew nigh on the day of the show with a goodly capacity for them.

Prince of Greens made a sensation in the hands of Mr. Wilson, indeed I have never had it or seen it so fine before. The paste, body, and edge were superb in every point, and only the poverty of the ever-weak tube stood to detract from the high beauty of a first-rate green-edged Auricula. Mr. Wilson had a bloom well done of old Countess of Wilts, a white edge, given to being small and buffy in the white, while the plant is an odd, and generally not a pretty grower.

Mr. Simonite brought his green seedling Talisman, but it has not been the sort of season in Sheffield in which to expect any good thing to struggle up to the mark. You have to multiply wind, and fog, and frost by smoke and deadly gases, to understand the difficulties of Floriculture, in a land where green things are forgotten, except at Rough Bank. Mr. Simonite had Alex. Meiklejohn, as a white edge, which is commonly a grey; and a very distinct and fine Lovely Ann, so constantly a green edge of superior quality to the usual plants of it as to be a strain. Hardly any flower lasts so long in perfection as this untiring old sort.

There were no Lancashire Heroes worthy the old name; and Lightbody was not great, though neat and bright on some specimens. Smiling Beauty was heavyish in ground-colour, and not at her whitest on the edge. There was Ashworth's Regular, a very scarce white, pretty, but like Catharina, too small in the pip, and sometimes reflexing, but always very correctly marked. The plant is very distinct in habit, with pale, straw-coloured, mealed foliage. Frank Simonite is a lovely violet-grounded white, and was both here and in London. It has great staying-powers, and is a truly rich addition to the class.

Duke of Argyll, a rich gold-tubed crimson self, of an unprolific nature, was shown, but here rather dull. It is valuable because of blooming late, and so waiting to accompany the late-blooming edges, from which many of the earlier selves almost run away. John Waterston was shown very large, and flat, and fine; and Alex. Meiklejohn was very good on several plants, having plenty of bold, rich body to balance the always broad, grey edge. There were no fine Colonel Taylors, and for Page's Champion it was almost too late. Trail's Anna has, like many other good flowers, not been correct this year, but it managed to head the single greens. It has been much "out" with Mr. Simonite and myself, and about the rate of a bad Lady Wilbraham.

The selves were led by Ellen Lancaster, a flower of great substance and power of ground-colour, with a finely rounded petal, but sadly deficient in sharpness, brilliancy, and breadth of paste. Pizarro has played sad pranks this year, coming with shaded edge and cracks and spots in the paste. But he is not given to such bad ways to the extent to which he has indulged in them this year, and I still think that Pizarro when right is our best self in circulation. Charles Perry was shown unusually large and stiff, and looked very fine. Blackbird was good too.

Polyanthuses were fair, but not in such force and beauty as at the Crystal Palace, where it was a memorable joy to see them in a style of growth and bloom that proves that vigour and effectiveness belong not exclusively to coarse things that go by the name "laced Polyanthus," properly belonging to the true old florist flower. But the date was getting late for the Polyanthus, and many of the best Northern plants had been up to the Palace.

The following is the Manchester Prize List, the judges being Mr. James Douglas, Loxford; Mr. John Douglas, York; J. Hepworth, Huddersfield; Mr. R. Lord, Todmorden; Mr. Thomas Lancaster, Middleton; Mr. R. Southern, Bolton; and Mr. J. Cockcroft, Ovenden, Halifax:—

6 AURICULAS, one of each class.—1st, Mr. Ben Simonite, Rough Bank, Sheffield, with a seedling, Mrs. Douglas, violet self, George Lightbody, Talisman, Lady Ann, and Alexander Meiklejohn, with a broad white edge. 2nd, Mr. H. Wilson, with a fine Alexander Meiklejohn with fine pips, Prince of Greens, Smiling Beauty, Garibaldi (Pohlman), a very nice dark self; Colonel Taylor and Countess of Wilton. 3rd, Miss Steward, Bishopsthorpe, York, with George Lightbody (Headly), Lancashire Hero (Lancashire), a flower of very large size, and rather coarse; Lord Clyde (Lightbody), Ann Smith (Smith), Lovely Ann (Oliver), and Alderman Wisbey (Headly). 4th, Mr. E. Pohlman (Halifax). 5th, Clement Royds, Esq.

4 AURICULAS.—1st, Mr. Simonite, with Duke of Argyll, Talisman, Frank Simonite, and George Lightbody (Headly). 2nd, Mr. Wilson, Halifax, with Champion (Page), George Lightbody, very bright; Smiling Beauty (Heap), very good; and Meteor Flag. 3rd, Mr. T. Woodhead, Shilden Head Brewery, Halifax. 4th, C. Royds, Esq. 5th, Mr. E. Pohlman.

AURICULAS, pair.—1st, Richard Gorton, Esq., Gildabrook, Eccles, with Blackbird (Spalding) and John Waterston (Cunningham). 2nd, Miss Steward. 3rd, Mr. Simonite. 4th, Mr. Woodhead. 5th, Mr. T. Mellor, Ashton-under-Lyne.

GREEN-EDGED.—Mr. H. Wilson won premium with Traill's Anna; 1st, with Prince of Greens; 3rd, with Colonel Taylor; 4th and 8th, with Page's Champion. Mr. W. Taylor, Middleton, 2nd, with Lancashire Hero. Mr. Ben Simonite, 5th, with a seedling, and 6th with Talisman. C. Royds, Esq., 7th, with seedling.

GREY-EDGED.—Mr. Woodhead won premium with Alexander Meiklejohn; 2nd, with John Waterston. Mr. J. Booth was 1st, with Richard Headly; 3rd, George Lightbody; 7th, Queen Victoria. Mr. W. Taylor, 4th, Lancashire Hero. Mr. H. Wilson, 5th, with George Levick. Mr. B. Simonite, 6th, with Samuel Barlow; and 8th, with Conqueror of Europe.

WHITE-EDGED.—Mr. W. Taylor won premium with Smiling Beauty. Mr. H. Wilson 1st, with Ashworth's Regular; Mr. M. Partington, Middleton, 2nd, with Ringleader; Mr. B. Simonite 3rd, with Trail's Beauty; 4th, with Frank Simonite; Mr. J. Booth 5th, with White Rival; Miss Steward 6th, with Ann Smith; 8th, with Richard Headly; Mr. T. Mellor 7th, with Maggie Lauder.

SELFS.—C. Royds, Esq., won premium with Ellen Lancaster; 1st, with the same variety; 6th, with Mrs. Sturrock; Mr. W. F. Bateman, Low Moor, Bradford, 2nd, with Blackbird; Mr. H. Wilson 3rd, with C. J. Perry; 4th, with Garibaldi; 5th, with Othello; 8th, with Meteor Flag; Mr. Pohlman 7th, with Lord of Lorne.

4 ALPINE AURICULAS.—1st, Mr. Booth, with Queen Victoria, John Leech, Diadem, and Mercury. 2nd, Miss Steward. 3rd, R. Gorton, Esq. 4th, Samuel Barlow, Esq., Stakehill, Chadderton. In singles, Mr. Booth won premium with Diadem; 1st, with Diadem; 2nd, with Spangle; 3rd, with Minnie; 4th, with Etna. 5th, S. Barlow, Esq., with Ovid. These were yellow-centred flowers. In the class with white centres Mr. T. Mellor won premium with Couspicua. 1st, Mr. J. Booth, with Electro; 3rd, with Tenniel. 2nd, Miss Steward, the same exhibitor being placed 4th with a seedling. R. Gorton, Esq., 6th, with George Lightbody.

Samuel Barlow, Esq., gained a 1st prize for a very fine basket of twelve fancy Polyanthus; the same exhibitor showed a basket of fancy Auriculas, comprising yellow self and yellow-edged flowers; the 1st prize was again awarded. In the class for twelve double and single Primroses, W. Brockbank, Esq., Didsbury, Manchester, was 1st, with a nice group; S. Barlow, 2nd. Polyanthus of the laced section were exhibited in pairs and singles. Mr. J. Beswick, Middleton, was 1st, with Exile and Lancer; and Mr. R. Dyson, Chadderton, 2nd, with Lord Lincoln and Exile. Mr. Beswick won premium with Exile, 1st with Exile, 2nd with Lord Lincoln, 3rd with Cheshire Favourite; 4th, Mr. R. Dyson, with George IV.; the same exhibitors gaining the other prizes, except the eighth, which was President, from Mr. Partington.

—F. D. HORNER, Kirkby-Malzeard, Ripon.

VILLA GARDENING FOR JUNE.

JUNE is the most glorious month of the year. It is full of the most splendid gifts of the rich summer-time :—

“ And now the mother of the rose,
Bright June, leads on the glowing hours,
And from her hand luxuriant throws
Her lovely groups of summer flowers.”

This is how poets have sung of June ; and the sweetest song that poet ever imagined would fail to do justice to that glad tone of the summer rising to the swell of the grand chorus of earth’s joy.

GREENHOUSE.—A succession of blooming plants, so as to secure a continuous display, is now indispensable, and as soon as any decay, they should be removed, and others be brought forward to take their place. There is no necessity for crowding the shelves of the Greenhouse, and it is far better to have a few well-grown plants nicely displayed, than many of an inferior character crowded together. Cleanliness must be strictly adhered to, for what can look worse than dirty plants ? and so fumigation and syringing will be found very necessary ; the latter is of great service in keeping down green-fly, and giving a good appearance to the foliage. In syringing, if a little carbic acid be used, the foliage can be nicely cleansed and invigorated, without drenching the flowers. Plants that have their pots well filled with roots will be greatly benefited by the application of a little weak manure-water.

As *Cinerarias* go out of flower, they should be stood out in a shady spot in the open air, on an ash-bottom, at least any that it may be desirable to propagate by cuttings. *Calceolarias* will now be very gay, but the delicate flowers must be shaded from the sun, or they soon get damaged. *Pelargoniums* are now very brilliant ; one of the most desirable a villa gardener can grow is *Triomphe de St. Mandé*, one of the decorative Show class that produces immense trusses of bloom. *Heroine*, *Rob Roy*, *Empress*, *Duke of Cambridge*, and *Crimson King* are also good. Nice bushy plants of *Deutzia gracilis* in 48-pots are most useful, greatly helping the supply of cut-flowers ; and *Harrison’s New Musk* is especially good for the greenhouse. *Fuchsias* are getting very gay, and *Zonal Pelargoniums* in variety back them up well. There are many other things, too numerous to mention, that are now most useful in the greenhouse.

Many things that have gone out of flower can be removed to the open air, for it is now mild enough for them to bear exposure. A sheltered and shady spot is necessary, where wind and sun cannot harm them. If the plants be stood on an ash-bottom, worms cannot work through to the roots. Any that

require shifting should be so treated. If a continuation of wet weather should follow, it is an easy matter to lay the plants on their sides, to keep them from harm through saturation.

FLOWER GARDEN.—Bedding-out, whether to fill up certain beds after an arranged plan, or simply in the way of occupying spaces in ordinary flower-borders, must now be proceeded with and finished. An observant gardener puts out the hardier plants first, and finishes off with the tender ones. During the end of May, bedding-out was pushed forward with ardour, for were not the days warm, though dull, and the nights correspondingly favourable. In showy times plants quickly make root, and fasten themselves to the soil. If blustering winds continue, it will be necessary to stake some of the largest plants, to keep them from being loosened or snapped off near the ground. *Carnations*, *Picotees*, and *Pinks* are very rapidly throwing up their flower-stems, and staking is absolutely necessary ; the stems are brittle, and they are very apt to be snapped off at a joint. *Pentstemons*, *Pyrethrums*, *Phloxes*, and *Brompton Stocks* are particularly exposed to damages from gusts of wind ; and so are *Sweet Williams*, but the branches of the latter can be secured by passing a piece of bast round them. As *Anemones* and *Ranunculus* go out of flower, cut away the flowering stems, but leave every leaf of foliage on them ; its presence is indispensable to the ripening process. *Peonies*, the *Double White Rocket*, *Aquilegias* in variety ; *Canterbury Bells*, *Antirrhinums*, &c., are now objects of great beauty in the hardy border, and they well repay care and attention. What a season this is for bedding *Violas* ; they are growing away and flowering with great profusion, and are charming objects in beds and borders. Plenty of *Weeds* are putting in appearance, and must be kept down ; rake, hoe, and do all that is necessary, so as to impart a tidy appearance to the beds. Grass-plots must be frequently mown and edged, while the weather keeps moist ; gravel walks must be kept clean and neat, and box edgings nicely clipped.

KITCHEN GARDEN.—Here there are *Peas* to stake, and *Beans* in flower may have their tops pinched off, to cause the pods to swell. *Mustard*, *Cress*, *Lettuce*, and *Radishes* should still be sown for succession, and full crops of *Cabbage*, *Cauliflower* for late cutting. *Kales* must be planted out. The hoe should be constantly in use, and kept in motion among the crops, to open up fresh raw portions of the soil to the pulverising action of the atmosphere, and to admit the air and moisture freely into the mass. This is most beneficial to the luxuriant growth of all vegetables, and as a fine old gardener once remarked, “ is opposed to the growth of weeds, and acts with terribly destructive force against the health, comfort,

breeding, and thriving of all vermin, and preventing any of them making their home thereabouts." No time should be lost in getting out *Celery*, and if the weather is dry, the trenches should be well soaked with water before planting. The principles of successful kitchen-gardening may be summed up in a few words:—A loose, rough, friable state of the soil; deep and rough tillage; plenty of manure, and freedom from weeds and vermin.

FRUIT-GARDEN.—Towards the middle of the month, *Peach* and *Nectarine* trees will require pruning, leaving a good supply of young wood for another year. *Wall-fruit* will require thinning, where the crops are thick enough to require it. A general attention to cleanliness is indispensable in all trees. The weather is highly favourable to the production of wood, and judicious thinning-out will be required.—**SUBURBANUS.**

GARDEN GOSSIP.

AT the ROYAL HORTICULTURAL SOCIETY'S MEETING on May 7, the principal novelties certificate were *Rhipidopteris peltata gracillima*, a pretty miniature acrostichoid creeping fern, suitable for basket-culture, the fronds palm-like and freely cut. *Adiantum Lawsonianum*, a garden sport of very elegant character, with minute curved pinnules. *Coleus George Bunyard*, a variety with rosy-centred leaves, edged with bronzy-green; *Azalea indica Madame Eeckhaute*, a semi-double white of largo size and pure in colour; *Primula acaulis sulphurea major*, a very largo and full sulphur-yellow; all from Messrs. Veitch and Sons. *Anemidictyon Phyllitidis tessellata*, a flowering fern with the venation marked out by a darker green tint. *Adiantum Lawsonianum*. *Coleus Kentish Fire*, rosy-centred with a frilled edge; from Mr. B. S. Williams. *Alpine Auricula Silvia*, a self-edged maroon with pale centre, from Mr. Douglas. *Marica pacifica*, a pretty but fragrant Irid, with white and purplish flowers. *Iris Leichtlinii*, a hybrid between *sibirica* and *iberica*; *Camassia Brownii*, a fine purplish-flowered species, from H. J. Elwes, Esq. *Bomarea Callasii*, a fine greenhouse climber, from Rev. H. N. Ellacombe. *Saxifraga calyciflora*, a dwarf purplish-flowered species, from Mr. Atkins. A Second-class Certificate was given to Messrs. Veitch, for *Azalea Kaiser Wilhelm*, a small but bright rosy variety, valuable for decoration; and a Botanical Certificate for *Dioscorea retusa*, a very elegant climber, with compound leaves and drooping clustered spikes. On May 21, Mr. Williams had First-class Certificates for *Adiantum neoguineense*, a medium-sized free-growing fern of distinct character; *Ptychosperma rupicola*, a fine palm, with bold pinnate leaves, bronzy-red when young; and for *Cycas media*, *Alsothiphila plumosa*, and the noble *Sadleria cyatheoides*. G. F. Wilson, Esq., shewed a beautiful specimen of *Lilium tenuifolium*, with two fine pyramids of brilliant scarlet flowers.

— **MR. KNIGHT**, of Battle, has sent us specimens of what he calls "the fifth eruption of Vesuvius," in the shape of a sport from *Pelargonium Wonderful*, in which the flowers are double, and striped with white, as in the variety called New Life. It may, therefore, be regarded as

a double New Life, or a Striped Wonderful. Vesuvius has now become very notorious for its sports.

— **ACCORDING** to M. Carrière the best *Bait for Insect Traps* is a mixture of beer and water. He filled a number of glass fly-traps with different liquids, sweet and sour, and placed them under some fruit-trees, which were subject to the attacks of flies and other insects. After three weeks, the victims were counted. The trap containing beer and water contained 850 flies and other insects; that with pure beer contained 631; those with crushed pears, weak wine, and pure wine coming next, pure wine being at the bottom of the poll, with only 17 sufferers.

— **THE** show of the Southern Section of the NATIONAL CARNATION AND PICOTEE SOCIETY has been fixed to take place at South Kensington, in conjunction with the meeting of the Royal Horticultural Society, on July 23. A liberal prize schedule has been framed and issued, and may be obtained of the honorary secretary, Mr. E. S. Dodwell, 11 Chatham Terrace, Larkhall Rise, Clapham, London, S.W. A few more guineas are, however, needed in the treasury, in order to relieve the officials of any anxiety as to meeting the awards of the judges.

— **WE** hear of another HYBRID SARRACENIA at Glasnevin, where a most interesting feature of the plant-houses is the long range of *Sarracenia*, comprising all, or nearly all, the species in cultivation, many of them being in flower, as, for instance, *S. rubra*, *S. flava*, *S. f. grandiflora*, *S. purpurea*, &c. Of these, for floral beauty and effect the last named is the most telling. The above-named variety of *S. flava* is a striking one, the very pale yellow of the normal form giving place to a colour as pronounced as that of the daffodil. The plant, however, at present of most interest is a new hybrid raised at Glasnevin, and now flowering for the first time. It is the result of a cross between *S. flava* and *S. rubra*, the former being the pollen, the latter the seed-bearing parent. The offspring resemble the male parent in their greatly-increased size (those of the female parent, *S. rubra*, being comparatively small), while the pale yellow of the former is changed for the dark crimson glow of the flowers of the mother-plant. Dr. Moore was one of the first to attempt, and successfully, to effect a cross between the species of this interesting genus.

— **HOOPER'S GARDENING GUIDE** is the outcome of their business catalogue. It is, in fact, a selection from the descriptive and cultural matter, arranged alphabetically and profusely illustrated, and in this form makes a handy and useful reference-book for amateurs. Kitchen-garden subjects are separately treated, and in greater detail than flowers. There is also a calendar of garden operations.

— **THE NATIONAL ROSE SOCIETY** this year offers liberal prizes at the two shows, to be held at the Crystal Palace and at Manchester. The former is to take place on June 29, the latter on July 6. The prize schedules can be obtained on application to the Hon. Secretaries—Rev. H. H. D'Ombrain and E. Mawley, Esq. The committee anticipate a far more brilliant show than last year. "With the finest building in the world for exhibition

purposes, with space and light sufficient for the extremest requirements, with Rose-culture brought to its present state of perfection, and with the most liberal and varied Rose schedule ever issued, they believe that the Rose Show to be held at the Crystal Palace on June 29 will be the grandest ever held. A second schedule is also issued, the claims of the North (in order to make the Society truly a National one) having been taken into consideration."

— THE new white-edged SEEDLING AURICULA shown by Mr. Douglas at the recent show at the Crystal Palace, and to which a First-class Certificate was awarded by the judges, has subsequently been named *Silvia*. Mr. Douglas had already an Alpine Auricula certificate last year, to which the same name was given.

— MESSRS. G. JACKMAN AND SON's exhibition of early-flowering CLEMATISES has taken place during the past month, at the Crystal Palace. Though scarcely up to the high standard of excellence attained in previous exhibitions, the display was a striking one. The exhibition was held in the carriage department—not a very good position—and was composed of two large sloping banks of plants, the pale-coloured flowers of the Clematis being relieved by high-coloured Rhododendrons, and the front line effectively formed of Euonymus radicans variegata. The sorts which have been most attractive this year were Maiden's Blush, Fair Rosamond, the Queen, Blue Gem, Mrs. S. C. Baker, Edith Jackman, Sir Garnet Wolseley, Aureliana, Vesta, Albert Victor, Standishii, Mrs. Bateman, Lady Londesborough, Robert Hanbury, Stella, and the two double forms, Lucy Lemoine and Countess of Lovelace.

— AT the PARIS EXHIBITION of 1878, London is worthily represented by Messrs. Carter and Co., in all that pertains to agriculture. Their display extends upwards of 100 ft. in length, and contains some thousands of glass cases, containing distinct varieties of the most popular kinds of seeds for farms and gardens. The classification of these seeds is in accordance with the French system, and each glass case bears in conspicuous type the name of the variety, also printed in French. A novel feature is a group of the most popular kinds of peas in use for the French and English market. The specimens have been carefully dried and preserved, and show the height to which the variety grows, and the size attained by the pods; there is also a row of the dried peas, by which a true variety may be identified.

— A THIRD edition of HENFREY'S ELEMENTARY COURSE OF BOTANY (Van Voorst) has just been issued. It is edited by Dr. Masters, and in many parts has been so thoroughly revised, or in fact, rewritten, to keep pace with our rapidly advancing knowledge, that it virtually becomes a new book. This especially applies to the portions devoted to Vegetable Physiology, in which the writings of Sachs, Van Tieghem, Duchartre, Dehérain, Boussingault, Darwin, Trécul, Pfeffer, Janczewski, Corenwinder, Lawes and Gilbert, McNab, Vesque, Rauwenhoff, Warming, and others have been consulted. The Morphological chapters have been also recast, and in the systematic portion the arrangement of Bentham and Hooker, so far as it extends, has been followed. The section relating to Cryptogams has been entirely rewritten, by Mr.

G. Murray, of the British Museum. In consequence of this advanced information, the present work must be regarded as the best of the modern textbooks.

— THE DOUBLE-FLOWERED CINERARIAS from Messrs. Haage and Schmidt, of Erfurt, are exceedingly promising. The plants are of dwarf compact habit, vigorous and abundantly floriferous, and the individual blossoms fully double, some of the larger flowers fully $1\frac{1}{4}$ in. across. When they can be depended on to come true from seed, they will be most valuable for decoration, as well as for cutting. The colours take in all the ordinary tints met with amongst the single varieties.

Obituary.

— DR. T. THOMSON, F.R.S., died on April 18. He was born at Glasgow, in 1817, and after graduating there as Doctor of Medicine, entered the medical service of the East India Company. In 1847 he was appointed to accompany a mission which was dispatched across the Himalayas to Tibet; and in 1849 he joined Dr. Hooker at Darjeeling, whence in the following year they proceeded to Khasia, and subsequently to Silhet and Cachar, descending the Bay of Bengal to Chittagong, the Sunderbunds and Calcutta, whence they embarked for England. Dr. Thomson returned to India, to take charge of the Calcutta Botanic Garden, and remained there a few years, but came home in broken health, and of late years his labours connected with publications on the Flora of India have been much relaxed. His amiability endeared him to those who knew him.

— MR. JOHN DOBSON, of the Woodlands Nursery, Isleworth, died at Hounslow on May 3, at the comparatively early age of 46, after a severe illness. He was senior partner of the firm of Dobson and Sons, and had been a florist from childhood, having been a helper with his father at a time when the name of Dobson stood high at exhibitions of Pelargoniums. He leaves a wife and rather numerous family to mourn his loss.

— PROFESSOR VISIANI died on May 4. He was born at Sebenico, in Dalmatia, in 1800, and has for many years been the Professor of Botany and Director of the remarkable Botanic Garden of Padua.

— MR. WILLIAM HILL, gardener at Keele Hall, Newcastle, Staffordshire, died May 9. Mr. Hill was well known amongst his contemporaries as a most successful cultivator and exhibitor of Grapes, his training having been carried on in such schools as Caen Wood, Chiswick, Trentham, and Nuneaton. He was appointed to Keele Hall in 1850, and his employer, Ralph Sneyd, Esq., being anxious to have good grapes, this fruit received his special attention, and for many years Keele was never without grapes all the year round. He was a very successful exhibitor, and won sixty-one first prizes at the various London shows during the ten years from 1853 to 1863. Mr. Hill was not only a good grape-grower, but a thoroughly good gardener, and will be much regretted by a wide circle of professional friends.





Will Etten del.

Lily Mrs. Anthony Waterer.

LILY MRS. ANTHONY WATERER.

[PLATE 470.]

 Our figure of this beautiful variety, which is probably the first well-authenticated hybrid Lily, was made from plants growing in the nursery of Mr. Anthony Waterer, at Knap Hill, Surrey. It is a hybrid produced by *L. speciosum rubrum* fertilised by *L. auratum*, and as will be seen, is of the speciosum type, but with sufficient evidence of the influence of its pollen parent. The habit is that of *L. speciosum*, and the flowers are of large size, pure white, richly spotted with crimson. The hybrid was raised by Mr. G. Thomson, then living as gardener at Stansted Park, Emsworth, Hants, now Garden Superintendent at the Crystal Palace, who has obligingly furnished the following particulars of its history :—

“ In 1867 I first flowered *Lilium auratum*, and with pollen taken from its flowers I fertilised those on a plant of *Lilium speciosum rubrum*. Only one seed-bearing pod was obtained, and this contained but few seeds, which were sown in a pan, and kept in a cold frame. At this distance of time I cannot state exactly how long the seeds were in germinating, but my impression is that nice little bulbs were formed by the spring of the following year, one of these being the hybrid LILY MRS. ANTHONY WATERER.

“ This Lily has had an eventful life. The first misfortune which befell it was during its first resting period, when the pan containing it was, by inadvertence, emptied out under the potting-bench, the result being the loss of most of the seedlings. It came into flower in July, 1870, and was exhibited before the Floral Committee at Kensington, where it was awarded a First-class Certificate, under the name of *Purity*. I may here mention a quality which I considered this Lily to possess above all others, and which, I believe, it still retains—namely, endurance. It was in flower for three or four days before it was cut and sent to London; from the time I sent it until I received it back a week elapsed, and it was kept in water for some days after that. I understood Mr. Anthony Waterer to say that it was with him more enduring than any Lily he knew, which quite accords with my experience.

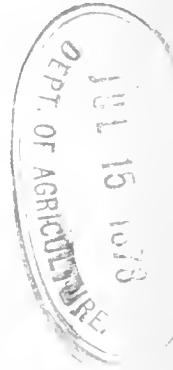
“ Returning to the history of the hybrid, I may mention that I left Stansted Park soon after having flowered it, and it was then placed in the hands of a London nurseryman to keep for me; but unfortunately, in the anxiety to make more of it, it was as nearly lost as possible. When I was appointed to the superintendence

of the Gardens at the Crystal Palace, I asked to have it back, when I again flowered it. Knowing, as I then did, how successful Mr. A. Waterer was in cultivating the *Lilium auratum* in the open ground, and believing that to be the only way to grow these Lilies, with a view to reproduction, I was glad to have the opportunity of placing it under his care, and the result has been that, after many vicissitudes, the first authenticated Lily Hybrid has found a good home, where it will soon be grown in quantity sufficient to warrant its being offered to the public—a fit companion for the gorgeous *Lilium Parkmanni*.

“ With the introduction and flowering of *Lilium auratum* in 1862, we seem to have entered on a new era in the history of Lilies. The *L. speciosum*, till then the finest Lily known, became eclipsed by the greater beauty of *L. auratum*, which is now so extensively grown and so well known that little need be said of it, further than to mention that what was then predicted of it has been far more than realised, and instead of its growing 4 ft. high, with from four to five flowers on a stem, it has been grown 8 ft. to 10 ft. high, or even more, and in some instances single stems have borne fifty, sixty, or even seventy flowers.

“ Perhaps no plant has been imported into this country in greater quantities than this Lily, which sufficiently shows the high estimation in which it has been held. I believe this fact also shows that for a long time its cultivation was misunderstood; indeed, I imagine that many thousands are lost annually, because growers will persist in drying-off the bulbs. Now, it is one thing to rest a plant, and quite another thing to dry it off, as it is called. I believe that the roots of Lilies are always active when in the ground, storing up nourishment for the following season. Therefore I consider that the bulbs should never be allowed to get dry, even when grown in pots. I maintain also that if larger pots are required, the bulbs should be repotted very soon after they have flowered—at any rate, before the stems are ripe enough to be cut off.

“ A good soil for Lilies consists of fibrous peat in a rough state, turfy loam, well rotted manure, and a good mixture of sharp sand. If grown in pots, these should be well drained. The bulbs should be placed rather deep, as the tendency is to produce roots on the stem above the bulb. The best place for the pots during winter is on a bed of coal-ashes, and plunged in the same material. When they begin to grow in spring, they may be removed into a cold pit, or left in the same place, simply removing some of the ashes, to allow of their free growth. This treatment will not quite apply



to the *L. auratum*, for although these are said to be quite hardy, they are hardy only in the same sense and to the same degree as many very common plants, notably the common Brake, which is indeed quite hardy, but very often suffers from late spring frosts. It is therefore necessary, either in pot-culture or in the open air, to guard against spring frosts as soon as the young stems begin to appear above the soil.—G. THOMSON, *Crystal Palace, Sydenham.*”

THE REV. G. JEANS ON THE PHILOSOPHY OF FLORISTS' FLOWERS.—IV.

“ON my former letters, I have been occupied in the comparatively easy task of criticising the objections made by others. I now come to the more hazardous one of building up a system myself, and giving the objectors an opportunity of treating me as I have treated them; and in truth, I invite, or rather request, them to do so. That there is a scientific system at the bottom of the ordinary estimates of flowers, I have long been convinced; and if I do not succeed in developing it, the fault will be in these papers, which, therefore, I should wish to be found fault with, because there is now an ample sufficiency of facts accumulated for the science of Floriculture to be thence ascertained, and to take its place with other established systems. It is time for some one to do it, if I should fail.

“I proceed, therefore, to point out more particularly my view of the scientific principles on which the general agreement among florists, in what should be considered points of excellence in their flowers, is based. After which, I purpose to apply those principles to some of the flowers, as a specimen of what is required in all for an acknowledged standard, to be referred to both by growers and judges; premising, however, that I have not the arrogance to propose this essay as such a standard; nor could it be, for the principles themselves must first be sifted by criticism, both friendly and unfriendly, until some principles are established and recognised, and not till then can such a manual be compiled. But this may serve as a first attempt towards it, to attract others into the same path, in order to weed out what is unsound, to prune what is amiss, and to supply what is wanting. It will also serve to show that there are defined and certain boundaries, within which are confined respectively the province of science, within which there will always be agreement, and the province of taste, which admits of infinite diversity.

“And I am pleased at seeing the increase of instances of persons conversant with the details of such matters, and who probably have not

turned their attention to the modes by which their judgments have been influenced, feeling their way intelligibly and successfully to the very points which reasoning will demonstrate to be the true points of ideal excellence. Mr. Kendall has, in the FLORIST, [1849, p. 131] given us the properties of a good Cineraria; and as far as he has gone, if he had studied Aristotle and the Metaphysicians, he could not have done it better. His guide probably was the experience of a practised and interested eye. It will be the province of these Essays to show by reason that he is right in every particular.

“The end proposed by the Creator in the arrangement and colours of the petals of a flower is that which is pleasant to the eye, and the two means by which this is produced are form and colour.

“Form is available in two respects,—*absolute*, or direct, which is sought for its own sake, in that some forms are in their nature more pleasing than others, as a curve is more graceful than a straight line, and some curves than others; and *relative*, or indirect, which is subsidiary to some other purpose, in that some forms are better suited than others to set off colours to advantage, as a smooth petal exhibits its markings more perfectly than a wrinkled one can.

“Colour is simply for its own sake; but it produces its effect in two ways—by *contrast*, as in painting light appears to be thrown upon any point by placing a shadow beside it; and by *combination*, as purple unites harmoniously with either of its constituent elements, red or blue, while green will hardly unite with any other. Combination, moreover, may take place in three ways; where each is preserved, as when one colour shades off imperceptibly into another; where distinctness begins to be lost by partial fusion, as in the clouded colours; and where the separate elements blend into an uniform new tint, as in the endless diversity of compound colours.

“These are the few and elementary principles on which, with the latitude to be allowed for tastes, which will be defined hereafter, depends the effect of any flower in pleasing the eye. And it will be found that these principles are strictly scientific, and reducible to rules capable of application to each species of flower, so as to determine, in a great and ascertainable measure, the value of any variety of each species.

“And in fact, it is because there is so much of scientific rule, founded in nature, in the pursuits of florists, that there has been that large amount of agreement among them, which we find to have obtained in a matter which is vulgarly believed to be a mere matter of individual taste and caprice.

“Form or shape is the figure contained by a

limiting outline. And it is the outline which for the most part suggests to the mind the idea represented by the figure, as has been demonstrated by Retsch, in his celebrated illustrations of the German and English poets.

“An outline may be either *general*, of the whole flower under consideration, as the cup of a Tulip; or *subordinate*, as being contained with others within the general outline, as that of the blotch in the petal of a Pelargonium. This distinction it is necessary to enlarge upon, because, in judging of excellences or defects, what in the former would be a fault, in the latter would be a beauty. The two kinds of outline, having different offices to fulfil, require different properties for their perfection.

“For subordinate outlines, being always appended to, and controlled by, the leading idea of the whole flower, admit, with manifest advantage, departures from perfect forms, which would be intolerable in the general one. Thus the eye of a Pansy, if clear, and not confused, is striking in proportion as it is made up of bold dashes and abrupt contrasts, presenting an uneven outline, which, if found in the flower which contains the eye, would condemn it to the dunghill.

“These and other similar instances, presenting at first a difficulty to reconcile them with rule and reduce them to order, are, in fact, no exceptions. They are examples of what our experience in everything is full of, that as in the material world every particle of matter is under the influence of an infinity of attractions on every side, the amount of each of which is nevertheless subject to an invariable law, and therefore the inclination of the particle towards any is reducible to the strictest scientific investigation; so, in the intellectual world, what are commonly supposed to be exceptions, are, in reality, only instances of the things coming within the superior influence of some other rule. Every rule is paramount in its own little circle, but that circle is in every case very small, because there are other rules on the subject which have an equal claim to be obeyed in their place, the interfering influences of which must have their due weight allowed to them.

“It is a great mistake, and dishonourable to God, as well as to ourselves, indolently to rest satisfied with calling so many things ‘exceptions,’ as we are in the habit of doing. An exception is, for the most part, only an expression of our ignorance. Real exceptions are much rarer than they are supposed to be. Our minds were made for order; and however our habits may seem to contradict the assertion, it is still a fact bearing evidence of our high original and destination that disorder is unnatural to us. And this may be seen, not only in the natural preference always in the long-run shown for scientifically perfect forms, but

also in the mode in which we unconsciously form our judgments of them. Thus, in examining a flower, we may not be aware of the fact, but it is not the less true, that we proceed according to strict rule and method. First, we obtain a leading idea, excited by the whole, as made up of and containing its parts. Next, we begin to separate those parts into their respective groups; and as our examination is extended or repeated, subdividing those again into their more elementary units. And as we become more familiar, and better acquainted with the object of examination, this process is reviewed and altered, and the divisions and subdivisions recast into other groupings, arising out of, or suggesting, new and other ideas. So that we may often perceive, as we contemplate a flower, new ideas and associations arising in our minds, and actually, as it were, changing its appearance in our eyes, and altering our judgment of it. Hence an extended familiarity with any flower is necessary before its characteristic points will be discovered, and its most natural divisions and peculiarities definitely settled. But when this process has been sufficiently gone through, the judgment will, in most cases, be found to be in accordance with nature, and will be generally acquiesced in. And a much earlier and more perfect agreement may be expected when the natural principles, in accordance with which our preferences are formed, are known and understood.

“There is, then, always one leading idea suggested by any flower, controlled by the general outline of its form, and the disposition of its principal parts. This is the characteristic of the flower, to which all its other properties must be subservient. It is not always easy to express in words what this idea is, though when there is some other thing with which we are familiar to serve as an illustration, there is no difficulty. Thus the idea of a Tulip is a painted cup, and that of a Dahlia or a Ranunculus is a variegated rosette.

“And as the general outline takes the lead in the impression produced by the flower, a defective form in it cannot be compensated, because there is nothing of equal value, by a counter-excellence in which it might be balanced. If, therefore, that outline be not full and graceful, the flower must needs be faulty. Such is the native Pansy, and therefore its improvement depended on first bringing its general form into what it may now be said to have obtained, a near resemblance to a circle. The Cineraria is still defective in this, from its outline consisting of points.* And therefore its improvement, on the supposition of its continuing a single flower, first demands

[* Since this was written, the general outline of the Cineraria has been to some extent improved by a partial widening and rounding of the individual ray florets; and the idea of a double Cineraria has been realised.—ED.]

the rounding-off of its petals. Whether it would be improved if rendered double is a question, on the solution of which something will be

said when treating of the principle of Variety. And thus much in the outset concerning outlines, general and subordinate.--IOTA."



ANTHURIUM VEITCHII (see also p. 102).

NEW ANTHURIUMS.

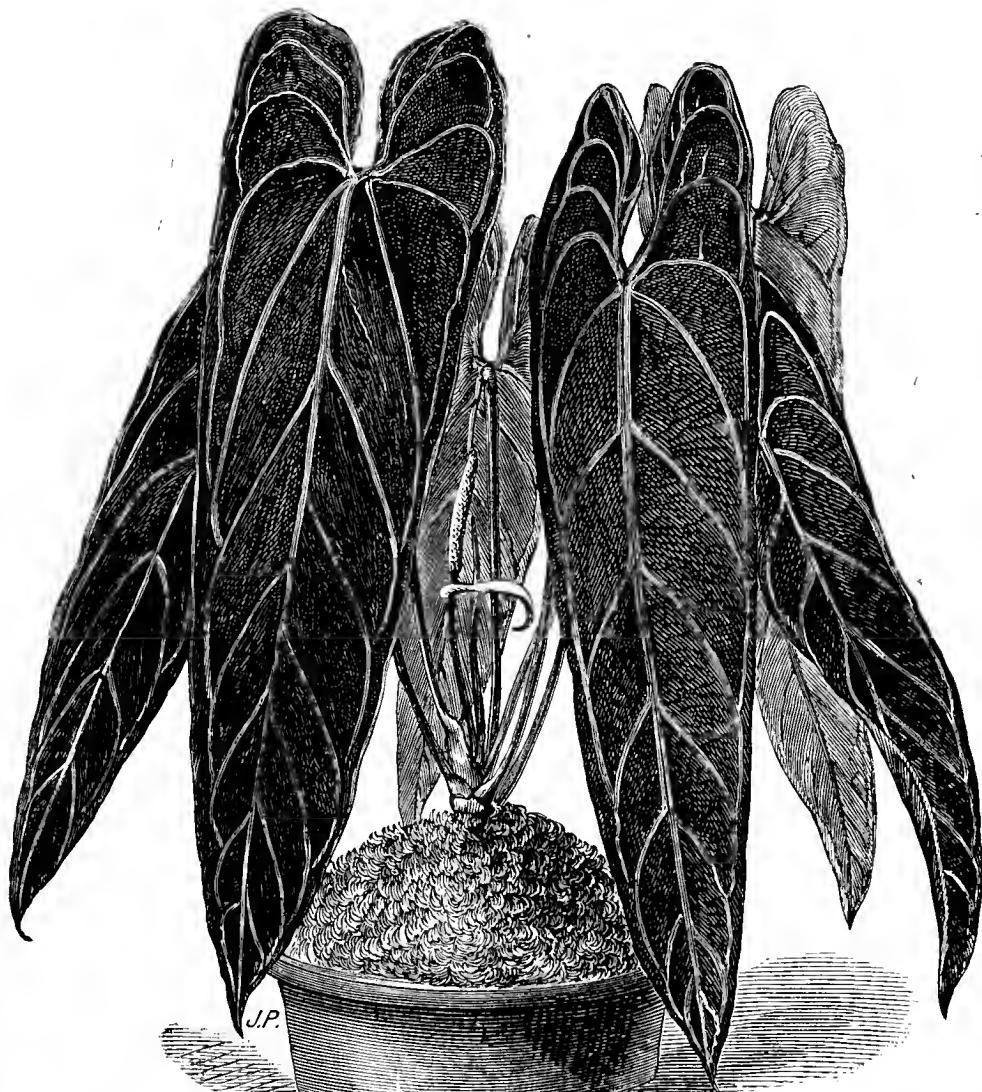
ON the *Anthurium* family we have a large number of interesting plants, some of which take the first rank amongst flowering plants, and some an equally high position amongst what are called foliage-plants. They are all tropical, requiring stove-heat, which is, perhaps, their greatest drawback. Passing by the ordinary types of the genus, as well as the ornamental floriferous ones, we propose now to notice two very distinct and effective members of the fine-foliaged group, for illustrations of which we have to thank Messrs. Veitch and Sons, of Chelsea, bearing the names of *Anthurium Veitchii* and *Anthurium Warocqueanum*.

Anthurium Veitchii is a very remarkable

plant, and at once arrests the eye by its singular structure. The outline of the leaf is peculiar from its elongated form, but what is more striking is the bullate surface, which is so developed as to appear to be transversely corrugated. The plant has a stoutish root-stock, from which spring up several leaf-stalks $1\frac{1}{2}$ ft. to 2 ft. long, from the top of which the leaf-blade is deflexed. They are of an ovate-oblong form, greatly elongated, so that the points reach to the base of the stalk, deeply cordate where they join the petiole, and ending in an acuminate apex. The full-grown leaves reach 2 ft. to 3 ft. long, with a breadth of less than one-third the length. They are of a coriaceous texture, deep green in colour, with a glossy metallic

surface while young, becoming paler in age, the principal side-nerves lying in parallel curves and deeply sunk, so that the leaf-surface appears

of its distinct form and fine tone of colour. It was imported from New Grenada, where it was discovered by Mr. Wallis, and has been dedi-



ANTHURIUM WAROCQUEANUM (SEE ALSO p. 102.)

to be puffed up between them. This peculiar corrugation is very effective. The spathe is white and oblong, but it is as a foliage-plant that it will be prized. Messrs. Veitch imported it from Columbia, through Mr. Wallis, and Mr. Bull received it from the same country through his collector, Mr. Carder.

Anthurium Warocqueanum, it will be seen, is of similar habit to *A. Veitchii*, and has leaves of a similar form, but plain instead of corrugated. The leaves grow from 2 ft. to 2½ ft. long, and from 7 in. to 8 in. wide, and are of a rich deep green colour, with a fine velvety lustre, on which the pale-coloured costa and veins are displayed to great advantage. It is a noble subject, and will be welcomed by the cultivator of plants with fine foliage, on account

cated to M. Warocqué, an eminent Belgian amateur.

Both these plants have received, and well deserved, the award of a Certificate of Merit from the Royal Horticultural and the Royal Botanic Societies.—T. MOORE.

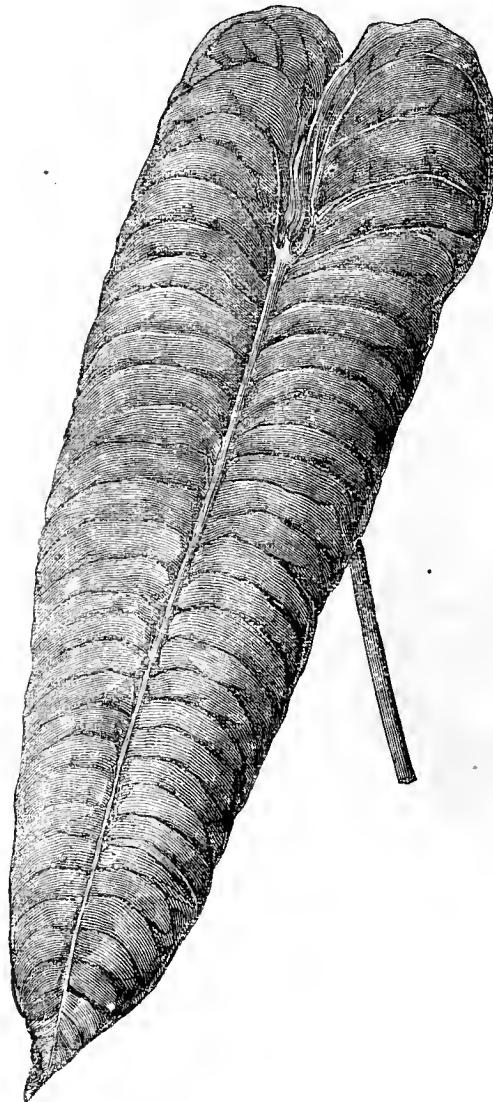
THE PELARGONIUM SOCIETY.

HIS Society held its fourth annual exhibition on June 18, in the Royal Horticultural Garden at South Kensington, in conjunction with the summer show of Roses. The primary object of this special Society is to improve the present races of Pelargoniums, and to encourage the production of new races, and by means of exhibitions to

revive and foster that spirit of emulation in the production of novelties, and the culture of specimen plants, which was more evident a few years since than now.

The Show was, on the whole, successful, most of the principal classes being fairly filled up, though the exhibits were unequal, and the competition in the case of the new types, the varieties not in commerce, less full than could have been desired, since this is one special feature

SHOW PELARGONIUMS, 6 varieties: 1st, Mr. James, gardener to W. F. Watson, Esq., Isleworth, a fine group, admirably bloomed, fresh, even, and of rare quality, consisting of Judith, Example, Magnificent, Superb, Isabella, and Scottish Chieftain, a very telling selection of this race of varieties, which are, after all, indispensable, and unapproached for early summer conservatory decoration. 2nd, Mr. Weir, gardener to Mrs. Hodgson, Hampstead.—6 varieties, not in commerce: 1st, E. B. Foster, Esq., Clewer Manor, who showed some remarkably fine new varieties,—Dauntless, salmon-pink lower petals tinted with orange, and with slight dark lines, dark top petals, with margin of fiery crimson;



LEAF OF ANTHRIDIUM VEITCHII.



LEAF OF ANTHRIDIUM WAROCQUEANUM.

it is the Society's object to encourage. The ungenial weather, it may fairly be presumed, had presented difficulties which in some cases were insurmountable. Some grand specimen plants were, however, shown by Mr. James, and Mr. Catlin, and a most interesting collection of half-specimens of show Pelargoniums, illustrating the novelties of the past few years, came from Mr. Turner. The following were the chief awards made in the several classes:—

Symmetry, orange-salmon lower petals, with slight blotch on each, large dark top petals and bold white throat, very fine; Gladiator, brilliant orange-carmine, an exceedingly fine hue of colour, very dark blotch on top petals, and white throat, extra fine; Invincible, orange-carmine lower petals, with heavy dark pencilings, dark top petals; Marmion, orange-pink lower petals, dark top petals, large and of excellent form; and another of equally fine character.—1 variety, not in commerce: 1st, Mr. Turner, who showed Bertie, a beautiful flower, of fine form and substance, with rosy-pink lower petals painted with dark lines, rich dark top petals, and white throat, a large bold flower.

FANCY PELARGONIUMS, 6 varieties: 1st, Mr. James, who staged some very fine examples, averaging 3 ft. to 3½ ft. in diameter, finely grown and admirably flowered, the varieties being Mrs. Hart, Mrs. Graham, Mrs. Alfred Wigan, Morella, The Shah, very fine, and Princess Teck. 2nd, Mr. Weir.—4 varieties, not in commerce: 1st, Mr. C. Turner, Royal Nursery, Slough, who staged some very promising new varieties, viz., Insulaire, lower petals stained purple on a pale ground, chestnut-maroon upper petals, and bold white throat, very fine and distinct; Thurio, deep reddish-cerise, dashed with purple, and large white throat; Placida, large purplish-rose flowers, each petal having a wire-edge of white, flowers of great size and first quality, distinct and good; and Jannette, violet-rose lower petals, chestnut-maroon top petals, large white throat, very fine.

DECORATIVE PELARGONIUMS, 18 varieties: 1st, Messrs. J. and J. Hayes, Lower Edmonton, who showed Duchess of Bedford, Queen Victoria, Princess Helena, Digby Grand, Prince of Orange, Rosetta, Prince of Wales, Bridal Bouquet, Magenta Queen, Prince of Pelargoniums, Dr. Masters, Alice, Duchess of Edinburgh, Baltic, Captain Raikes, La Patrie, Lord Derby, and Triumphans—a very attractive and well selected lot, adapted to serve the purpose of decorative plants. There was no other competitor in this class, while in that for 12 varieties of the same character there was no competition.—4 varieties, not in commerce: 1st, Messrs. J. and J. Hayes, with Le Grand, Sultana, Prince of Orange, and Majeuta Queen, all bright and taking forms. These classes afforded the market growers a good opportunity of showing what beautiful plants they can produce in a 5-in. pot, and it is much to be regretted there were not more competitors.

ZONAL PELARGONIUMS, 9 varieties, florists' class: 1st, Mr. Catlin, gardener to Mrs. Lermitt, Finchley, whose plants were most admirably grown, averaging 3 ft. in diameter, and freely flowered; they consisted of Agnes Emily (Catlin), Laura (Pearson), a very fine salmon; Remus (Postans), Enone (Denny), a very bright pale scarlet; Miss Strachan (Pearson), deep salmon, very good; Titania (Denny), Maud (Pearson), and Heather Bell (Denny), a charming pink.—6 varieties, florists' class, not in commerce: 1st, Dr. Denny, Stoke Newington, with finely bloomed and well-grown examples of the following seedlings of his own raising:—Correggio, deep cerise dashed with violet, large bold pips of fine shape; Sunbeam, rich orange-scarlet, perfect form, and very striking; Manfred, very bright pale soft scarlet, a soft and striking shade of colour, a flower of great refinement and exquisite form; Ouida, deep purplish-cerise, fine pips; Dante, violet-pink, a fine glow of colour; and Madonna, pale bright pink, fine stout well-formed pip. 2nd, Mr. J. R. Pearson, Chilwell Nurseries, Nottingham, with unnamed seedlings lacking the finish of the foregoing. This is always a most interesting class, as it affords the raisers an opportunity to put forth their powers.—9 varieties, decorative class: 1st, Mr. Catlin, with some grand and most effective specimens, the finest group in the show, consisting of large and well-grown examples of Mrs. Turner, Colonel Wright, Mrs. Huish, Charles Burrows, Rev. A. Atkinson, Rebecca, Lucy Bosworth, Thomas Adams, and John Gibbons. 2nd, Mr. Weir.—4 varieties, decorative class, not in commerce: 1st, Mr. Catlin, who showed Nancy Lee, Fanny Catlin, and Edith Mary, all salmons, and John Tullett, light scarlet, apparently all of a vigorous growth, and with large crowded trusses.—18 varieties, in 6-inch pots: 1st, Mr. Catlin, with Heather Bell, Mrs. Pearson, John Gibbons, Dorothea, Rev. A. Atkinson,

Titania, very fine; Lizzie Brooks, fine; Clio, Lady Eva Campbell, a very distinct salmon; Gnome, Majestic, Lady Byron, and Ophelia. 3rd, Mr. J. Weir.—18 variegated: 1st, Mr. Meadmore, Romford; 2nd, Mr. Burley, Brentwood. Both collectives were indifferently coloured.—8 double-flowered, new dwarf type: 1st, Mr. Catlin, the sorts being Louis Buchner (Sisley), salmon; Eugène Bandouin, pink; Sylphide (Sisley), rose; Jacobaea, scarlet; Henri Buerier, salmon; Noémie, rose; Madame Amélie Baltet, white; and Wonderfull, scarlet; they were neat plants, rather small, but fairly bloomed. 2nd, Mr. Meadmore.—4 double-flowered, dwarf, not in commerce: 1st, Mr. J. R. Pearson, for unnamed seedlings of no conspicuous merit.—None of the classes for one zonal variety not in commerce brought out anything worthy of an award, except that for the dwarf double-flowered, in which Mr. H. Cannell, Swanley, took a 1st prize, for one named Jules Simon.

IVY-LEAVED PELARGONIUMS, 8 hybrid varieties: 2nd, Mr. J. George, Putney Heath, in whose group were St. George, Gem, Progress, Argus, Nemesis, Diadem, and Duchess of Edinburgh.—4 hybrid varieties, not in commerce: 1st, M. Victor Lemoine, Nancy; the varieties were A. F. Barron, Mdlle. Emile Gallé, Mdlle. Adrienne Barat, and Madame Perle, all very good.—The best hybrid Ivy-leaf not in commerce came from M. Jean Sisley, of Lyons, and was named La France; it was quite nosegay-flowered, pinkish salmon in colour, tinted with orange in the young flowers, and was both distinct and good. A grand lot of Ivy-leaved varieties was sent up from the Chiswick Gardens, where Mr. Barron has grown them most successfully.

CUT-FLOWERS, 24 show varieties: 1st, Mr. C. Turner, who made a good display. The best were Maid of Honour, Despot, Bertie, Forester, Isabella, Victory, Sovereign, very fine in colour; Exile, Goliath, Crusader, Covenanter, &c.—24 zonal varieties: 1st, Mr. H. Cannell, the most striking being Robert Burns, Livingstone, Colonel Seeley, Tom Bowling, Lady Sheffield, Mrs. Newdegate, Dr. Denny, Mrs. Whiteley, Astarte, Amazon, and Jealousy. 2nd, Mr. Burley.—24 double-flowered: 1st, Mr. Cannell. The best were Victor Lemoine, J. C. Rodbard, Littre, Cremona, Louis Buchner, Eugène Bandouin, &c. Mr. Cannell had also cut blooms of New Life and other newer varieties.

The show was greatly helped by the large and excellent collection of Pelargoniums brought up from Chiswick; by Mr. Turner's specimens of the newer show kinds, which are being grown on into size for exhibition; and by a fine collection of decorative Pelargoniums from Mr. A. Brown, of Hendon, perfect in every respect as market specimens.—M.

THE ROYAL NATIONAL TULIP SOCIETY.

THE annual exhibition of this Society, originally announced for June 1, was held a week earlier, May 25, in consequence of the blooms having reached the show condition sooner than was anticipated. The show was held at the gardens of the Royal Botanical and Horticultural Society of Manchester, at Old Trafford. As an exhibition, it fell considerably short of last year's proportions, owing, in part, to the inclement character of

the spring of 1877, which so weakened many of the bulbs that they had not vigour enough to produce flowers at all true to character; and in part, to the violent winds and drenching rains of the present spring, which spoilt many flowers that had promised well, the heavy drops of rain which fell on the canvas screens being forced through in the form of a fine spray, which, falling on the flowers, produced blemishes fatal to their chance on the exhibition-table.

The leading flowers of the show were unquestionably Dr. Hardy and Sir Joseph Paxton, flamed bizarres, the colour and markings of the former being especially noticeable. Talisman byblœmens, both feathered and flamed, was in fine character; and so was Adonis, flamed byblœmens, which was exceedingly fine in shape. The following list represents the best of the flowers produced:—

Flamed Roses: Annie McGregor, very fine; Lady Sefton, Mabel, and Triomphe Royale.

Feathered Roses: Nancy Gibson (Hepworth), very fine; Modesty, Charmer, Industry, Mrs. Lea, and Heroine.

Feathered Byblœmens: Bessie, Adonis, Mrs. Cooper, Martin's 101, and Mrs. Pickerell.

Flamed Byblœmens: Adonis, Talisman, Friar Tuck, Salvator Rosa, and Constancy.

Feathered Bizarres: John Morris, very strong in colour; Masterpiece, and Demosthenes.

Flamed Bizarres: Sir J. Paxton, Dr. Hardy, and Ajax.

Breeders: These were, on the whole, very fine, especially Mrs. Barlow, Olivia, and Annie McGregor, in the rose section.

The flowers shown in the leading classes are mentioned below; the blue ribbon of the show, the Silver Cup for the best twelve dissimilar Tulips, two feathered and two flamed in each class, being won by Mr. William Whittaker, of Salford:—

12 TULIPS, two feathered and two flamed in each class.—1st, Mr. W. Whittaker, with Talisman and Adonis, flamed, and Bessie and Adonis, feathered byblœmens; Ajax and Sir J. Paxton, flamed, and John Morris and Masterpiece, feathered bizarres; Mabel and Lady Sefton, flamed, and Hepworth's Nancy Gibson and Mrs. Lea, feathered roses. 2nd, Mr. David Barber, Staunton-le-Dale. 3rd, Mr. T. Mellor, Ashton-under-Lyne.

6 TULIPS, one feathered and one flamed in each class.—1st, Mr. Thomas Haynes, Leamington, with Sir J. Paxton, both feathered and flamed, bizarre; Mrs. Pickerell, feathered, and Talisman, flamed byblœmens; Heroine, feathered, and Circe, flamed roses. 2nd, Mr. Whittaker. 3rd, Mr. James Thurston, Wolverhampton.

BREEDER TULIPS.—The breeder flowers are always attractive and interesting objects at a Tulip show. For 6: 1st, Mr. Whittaker, with W. Wilson and Sir J. Paxton, bizarres; Helen Fawcet and Delicata, byblœmens; Mabel and Sarah Jane, roses. 2nd, Mr. Thomas Mellor, with Sterer's Seedlings,

bizarres; and Rebecca and Norval, seedling byblœmens; Olivia and Mabel, roses. 3rd, Mr. Joshua Hague. For 3, one of each section: 1st, Mr. Whittaker, with Sir J. Paxton, bizarre; Mabel, rose; and Delicata, byblœmen. In the class for single blooms of breeders many promising flowers were shown.

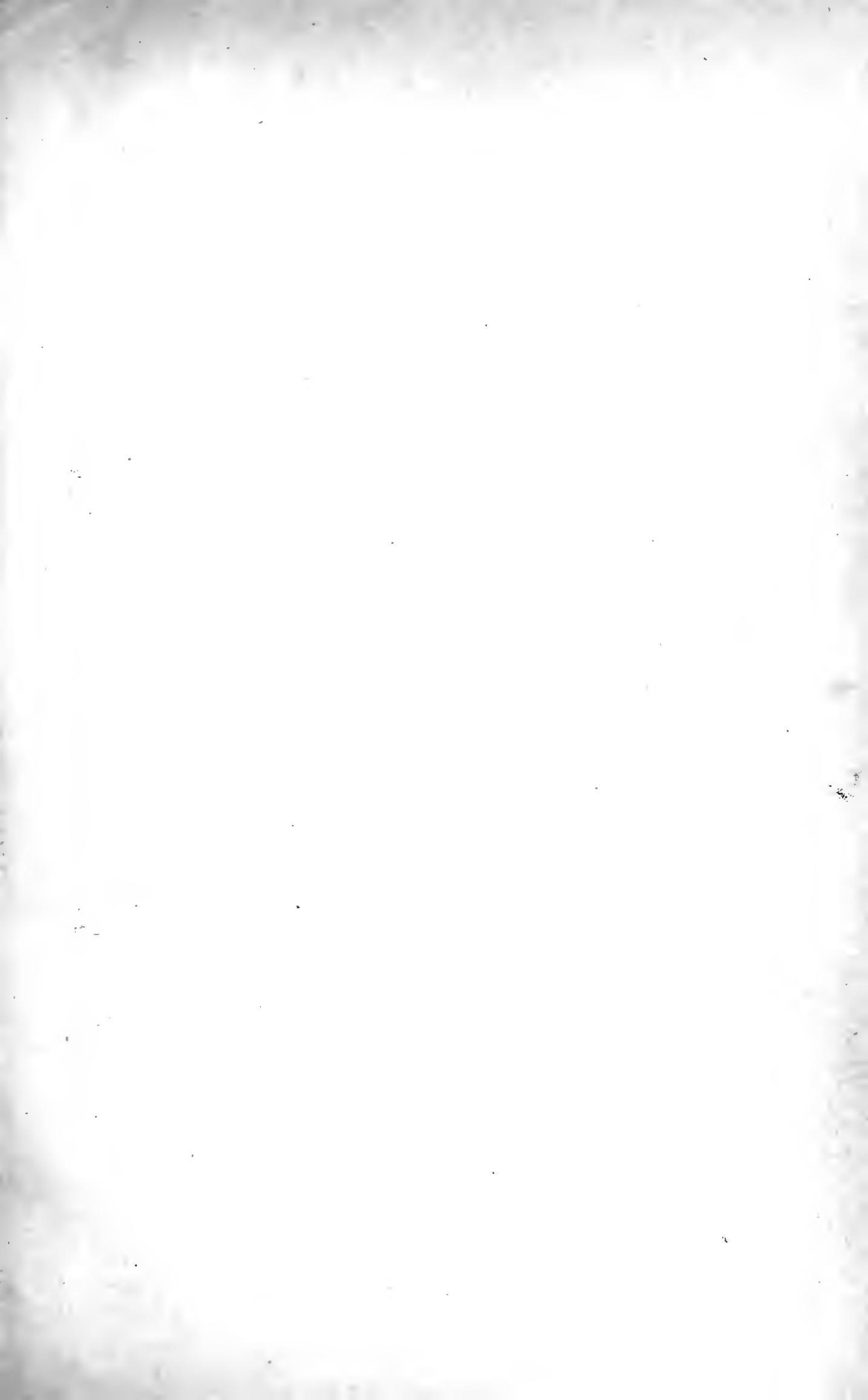
PREMIER FLOWERS.—The premier flamed Tulip was Sir J. Paxton, bizarre, shown by Mr. T. Haynes; the best feathered Tulip, Mrs. Pickerell byblœmen, also from Mr. Haynes; and the best breeder Tulip, Helen Fawcet byblœmen, from Mr. W. Whittaker.

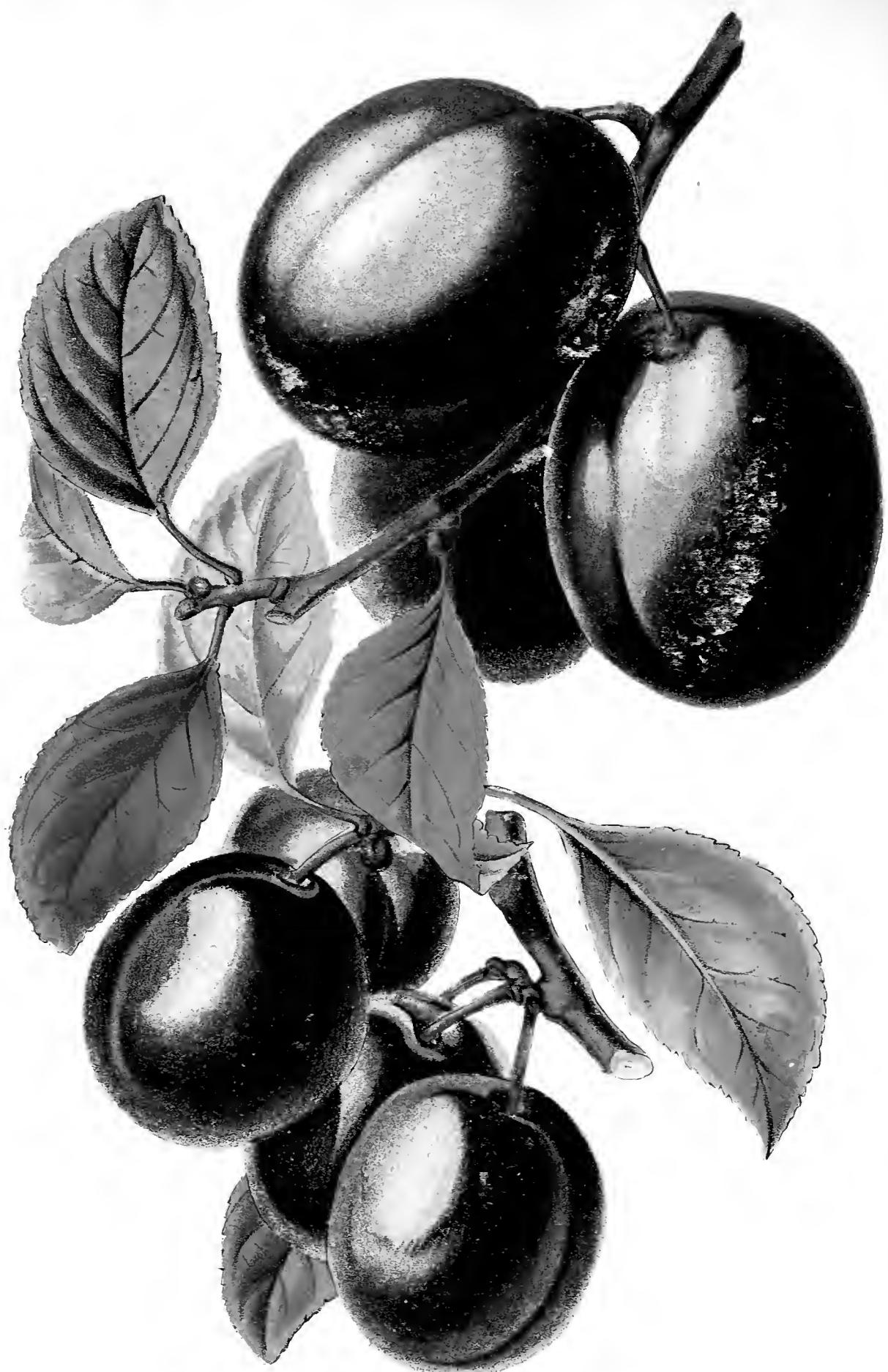
We fully endorse the following observations on Tulip shows in general, from a correspondent of the *Gardeners' Chronicle*, who writes:—"Notwithstanding that the Tulip growers get an immense deal of enjoyment out of their annual show, we can yet express a great desire to see some improvement from an artistic point of view. There is a great want of uniformity in the shape and size of the stands, and in their arrangement. The general public cares but little for Tulips, but they do care for and like a little artistic effect. Then, again, it is not an attractive sight to see several hundred blooms arranged in ginger-beer and other bottles, of varying patterns. These last are all huddled up together, in such a manner that anything like decorative effect is altogether lost. An improvement is very desirable, and if only some flowering and foliaged plants could be introduced among the stands, in order to break up their monotony of appearance, a good beginning would be made." Nothing could answer this purpose better than the small Palms now grown by thousands all over the country, and such as Mr. Turner lately used with such admirable effect in the staging of his unique collection of Pelargoniums.—M.

OUTDOOR CULTURE OF FIGS.

IT is surprising that the culture of the Fig in the open air is not more general than it is. When grown against a wall, the fruit ripens well in most parts of the country, and after the trees attain a good size and get into a bearing state, no crop is more certain, if the wood be well protected during the winter months and until all danger from frost is over.

Its culture is very simple. The Fig will grow in any ordinary garden soil, but does best in one that is neither too wet nor too dry. If the soil be too wet, it is apt to make coarse, gross shoots, and if too dry, to drop its fruit before it is ripe. The principal thing to be



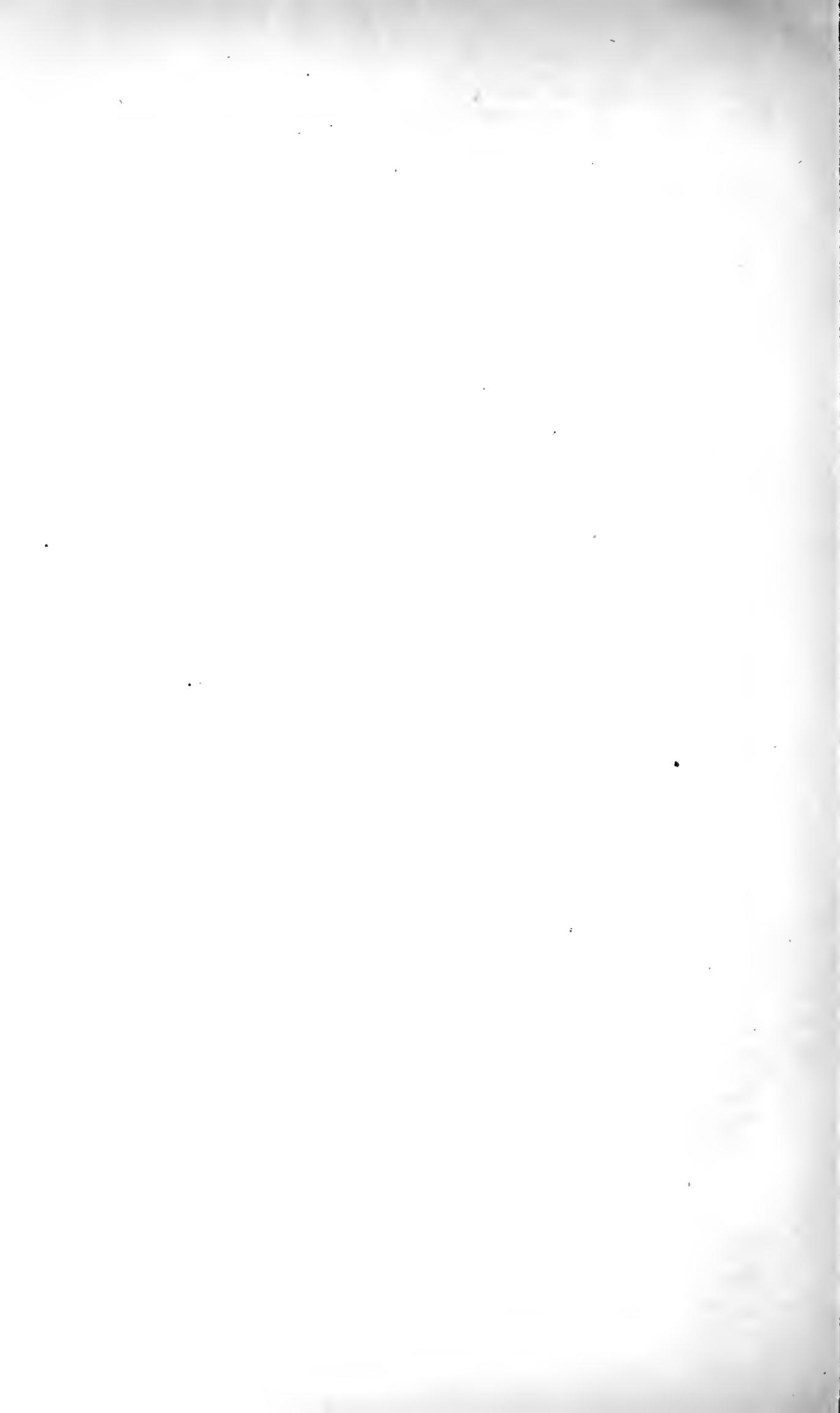


W. H. Fitch, del.

Chromo Stoobani Ghent.

Plums :

1, Diamond. 2, Belgian Purple.



attended to in the outdoor culture of the Fig is to prevent its making coarse, over-luxuriant growth. Short-jointed, well-ripened wood and moderate vigour of growth are sure accompaniments of fruitfulness, and when these are secured, there is little difficulty in getting plenty of fruit.

The Fig produces two crops of fruit in the year; the first ripens in August and September, and is borne on the previous season's shoots; and the second is yielded by the young summer shoots, and which rarely ripens in this country. The young shoots of the current season's growth should be well thinned, retaining only sufficient to fill up the spaces, without crowding. The young shoots must not, on any account, be nailed close to the wall, as that would cause the young Figs to grow to a large size; and in that case most of them would drop off, and the first crop—that which ripens the next season—would be very light. By allowing the young shoots to hang loosely from the wall, the young Figs will not be so large in size as when they are nailed closely to the wall, consequently

a greater quantity of embryo Figs remain during the winter, and the crop of fruit is better.

Early in the autumn, as soon after the fall of the leaf as possible, the trees should get what pruning they require. The terminal bud of every shoot should be removed; this causes a greater number of embryo Figs to grow the following season than would be the case when the terminal bud is not removed. The trees should then be covered for the winter. If straw or other loose covering be used, the trees should be occasionally looked to, as rats are apt to harbour in it, and will sometimes seriously bark the trees. In April, when all danger from frost is over, the trees should be uncovered, and nailed carefully and neatly to the wall; the young Figs will soon begin to show signs of growth, and will in due time ripen nicely, and are then a great acquisition to the dessert.

If I recollect rightly, I think the late Mr. Rivers advocated the growth of Figs as bushes in gardens, taking the plants up annually with a ball of earth, and placing them in cellars until the following spring, when they should be planted in the places they were removed from.—M. SAUL, *Stourton*.

USEFUL PLUMS.

[PLATE 471.]

HE Plums here represented are not chosen for illustration on account of their novelty, but by reason of their utilitarian character. They are Plums which deserve to be largely grown, and even better known than they are, on account of their general usefulness.

DIAMOND (Fig. 1).—In this we have one of the largest and most beautiful of Plums grown, and one which is especially valuable for the exhibition table. The fruit is very large, of long oval shape, and marked with a very distinct suture. The skin is very dark purple, almost black (so that it is sometimes called Black Diamond), and is covered with a thick bloom. The flesh is yellowish, rather coarse, but juicy, and of a brisk pleasant flavour, slightly adherent to the stone. This is a very excellent Plum for cooking or preserving, and is much cultivated in some parts. It is a

strong grower, and a good cropper. Ripens in September. Raised by Mr. Hooker, of Brenchley, in Kent.

BELGIAN PURPLE (Fig. 2).—For amateur cultivators there are few better Plums than this. The tree is of an excellent habit of growth, the shoots forming naturally very close short-jointed spurs, and being nearly always covered with blossom-buds. It is an almost certain cropper. The fruit is large, or above medium size, of a roundish shape, and marked with a very distinct suture. The skin is dark purplish on the exposed side, occasionally splashed with crimson and greenish yellow in the shade, and covered with a fine bloom. The stalk is rather short, inserted in a cavity. The flesh is greenish, thick, but juicy, and richly flavoured, slightly adhering to the stone. This is generally classed as a cooking Plum, but it is well suited for dessert. Ripens mid-season. It is of Belgian origin.—M.

LILACS FOR WINTER FLOWERING.

MONGST hardy plants for winter-flowering, there are few which are more serviceable than the Lilac—so popular, so easily grown, so amenable to the

treatment necessary for mid-winter flowering, and producing such an abundance of deliciously fragrant blossoms with the least possible attention. Thus the Common Lilac, as it is termed,

has become the plant of the general public; it is everybody's plant, and is found in every conceivable situation, and one might say under almost every condition, always accommodating itself to the circumstances in which it is placed. Indeed, the *Syringa vulgaris* is not only serviceable as an indoor decorative plant, but one of the most reliable and effective shrubbery plants that we possess, in some degree luxuriating even in the vitiated, murky atmosphere of our large cities, where vegetation, as a rule, has to struggle for existence.

With all this, the Lilac, like most other subjects, is benefited by careful culture, and deserves far more general attention than, as a rule, it receives in English gardens. We are particularly wanting in varieties, of which so many of improved character exist, and are procurable at a trifling cost. It is really surprising how limited our collections generally are, for it is quite exceptional to find other than the following sorts represented in our grounds:—*Syringa vulgaris*, and its white variety; *S. persica*, purple and white forms; the *Siberian* variety, occasionally represented; and very recently we have added such sorts as *Charles X.*, a strong-growing variety of *vulgaris*, which forces freely in a moderately large state; and *Dr. Lindley*, a dwarf, compact, free-growing kind, well suited for forcing. These latter are doubtless two superior varieties, to which may be added with advantage such kinds as *rubra insignis*, a very remarkable, fine variety, well meriting attention, *Duchesse de Nemours*, *grandiflora*, *spectabilis*, *Vallettiana*, *Ville de Troyes*, *Princesse Marie*, *Princesse Camille de Rohan*, &c. There are doubtless others of the many kinds now in existence which possess superior merits. However, in these general remarks I am somewhat diverging from the point meditated, which was the early forcing of Lilacs, and more particularly the varieties of the Persian Lilac, such as *Syringa persica*, *S. persica alba*, and *S. persica incisa*, to which may very fittingly be added *Dr. Lindley*, on account of its compact habit and free-blooming properties.

It is a usual practice, which is not always attended with perfect success, as they seldom bloom or stand so long as established plants, to pot-up plants from the ground with balls, and introduce them at once into the forcing-house. Certainly, it is not the most judicious

method to adopt, with such plants as are expected to produce flowers during the months of December and January. This I have repeatedly proved, and I would guarantee that one-quarter of the plants, properly prepared and potted twelve months previous to forcing, and having encouragement so as to secure thorough development and maturation in the previous summer, will produce a much greater amount of satisfaction, with the additional advantage of greater compactness of habit and profuseness of blossom, which renders them far more efficient for association with small plants in different combinations. For this purpose they are as superior to lifted plants as it is possible to conceive, and the practice involves but a trifling amount of labour. I have grown the Persian varieties grafted upon stocks of the *Ligustrum*, which answers well for standard plants, as they form vigorous growth; and in this form are very serviceable to stand amongst plants for effect, being so light and elegant. The only objection to them is the growth of an abundant crop of suckers, which are troublesome to keep under.

It will be obvious that a little care in the preparation of store plants for potting-up will be necessary, and the stools should be frequently divided, selected, and sized, cutting them into form, and planting in good soil in an open situation, where the only care necessary is the trimming-in of unruly shoots which mar the symmetry of the plants, sedulously watching to keep under any root-suckers which may appear. Plants potted up in from 6-in. to 12-in. pots, according to size, and plunged up to the rim in a sunny spot during the summer, may be brought forward in a moderate temperature during November, where they will quickly produce an abundant and lasting supply of fragrant blossoms, which at that dull season of the year are especially welcome. Where space is not limited, a profusion of blossoms may be obtained after the turn of the year, by lifting moderate-sized bushes with large balls, and placing them in heat. If they have been prepared by cutting round or lifting some time previous, so much the better. The Lilac is so accommodating as to management as to produce average results under any moderately careful treatment. At

the same time, it cannot be too forcibly stated that the successful forcing and flowering of all hardy shrubs is mainly depending upon previous preparation, and thorough maturation of the wood. Truly we may force plants that have a natural tendency to flower during the winter, even when newly wrenched from the ground; but it is the weak point discernible in our

hardy-plant forcing. Besides this, they are too often neglected and cast on one side after flowering, and thus hopelessly injured for the future. The object throughout the season should be to secure unimpeded, vigorous growth, which must be well ripened; and this obtained, much disappointment in the results would be avoided.—GEO. WESTLAND, *Witley Court Gardens.*



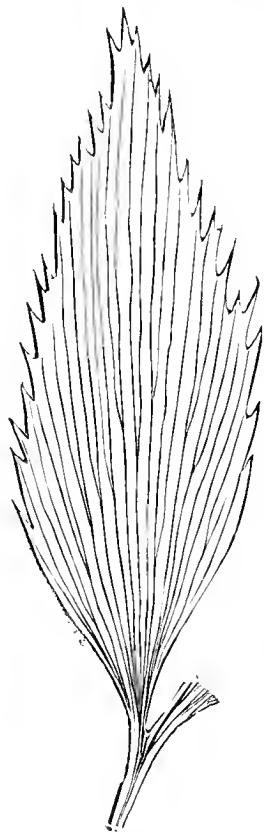
BOWENIA SPECTABILIS SERRULATA.

BOWENIA is the only known Cycadaceous genus which has bipinnated leaves. They spring up erect from a short caudex, and have green polished stalks, while the leaves themselves are evergreen, and the leaflets more or less obliquely lance-shaped, and of a firm leathery texture. The original species, *B. spectabilis*, is a native of Queensland, as is the form represented in the accompanying figure from Mr. Bull's *Catalogue*, which, whether

it be permanently distinct from *B. spectabilis*, as Mr. Bull thinks, or whether it be merely the young state of that plant, as is believed by others, is at least one of the finest and most distinct of the grand natural order—that of Cycads—to which it belongs.

Mr. Bull's description runs thus:—A most distinct and remarkable plant. It has a short thick caudex, from the crown of which are developed its large and singularly handsome

leaves. The petioles are long, slender, roundish, and of a dark-green colour; the lamina is bipinnatisect and spreading; the pinnules are firm in texture, obliquely falcato-lanceolate, acuminate, the margins prettily toothed or serrated. It may be added, that the gracefully



drooping habit of the broad spreading leaves—so different from the stiff formality common to the order—very much enhances its beauty, and whether permanently serrated or not, it may take its place amongst the most ornamental of the palms and larger ferns with which it would become associated in cultivation.—T. MOORE.

MARKET PLANTS.—V.

VARIEGATED ZONAL PELARGONIUMS.

THE Tricolor Pelargonium has certainly ceased to be the pet plant with many that it was a few years ago, when there was something like a passion for new and expensive varieties. But the rage soon subsided, for it was quickly found it was only under special circumstances that the plants could be well grown and finely coloured, as they were when shown by their introducers. A few failures with any particular plant soon affect the demand for it; but though the Tricolor or Variegated Zonal Pelargonium declined as a

pet, it has never ceased to be an acceptable and most useful plant in the garden, for pot-culture and for beds.

One particular grower of this plant, Mr. Thomas Pestridge, of the Boston Park Nursery, Brentford, sends to market twelve thousand in a season, a goodly number in large 60-pots, the larger quantity in small 60-pots. It is during the months of April and May that they are sent to market. A dozen plants are put into a small light box—sometimes consisting of one variety only, sometimes of two, and not infrequently of several varieties mixed together. A model market plant in a small 60-pot is from four to five inches through, short-jointed, branching, dwarf in growth, and with richly-coloured leaves feathering to the pot. Such plants command a good price, and there is a very ready sale for them, as London nurserymen, who find it difficult to grow the tricolors, become large purchasers for supplying orders. Bronzes or bicolors are also largely grown by Mr. Pestridge, as he gets through some ten thousand plants in a season; and they also are nice bushy, compact, dwarf specimens, with grandly coloured leaves.

The leading market Tricolor varieties are *Achievement*, with a very bright, evenly-marked zone; *Masterpiece*, very fine and attractive; *Golden Queen*, excellent in every respect; *Miss Goring*, very good, and of fine habit; *Mrs. Little*, very fine in colour, and much in demand in the market in consequence; *Prince of Wales*, a useful variety, but much like *Mrs. Pollock*; *Marie Stuart* (Pestridge), large, bold, circular leaf, rich marking and excellent habit; *Florence* (Wills), in the way of *Mrs. Pollock*, but having more colour, besides being a more compact grower, and a great improvement on this old variety; *Salamander* (Pestridge), very fine colour; *Peter Griève*, finely marked, large, bold leaves, but a slow grower; and *Macbeth*, a capital grower, with fine, high-coloured foliage, well fitted for a large bed, because so free and robust.

The Silver Tricolors are grown also, but only in the proportion of an eighth part, as compared with the Golden. But a few varieties of silvers are grown; the best for the purpose are *Lass o' Gowrie*, *Miss Bond*, *Empress of India* (Pestridge), the best grower among the Silver-edged varieties, very fine and effective, a variety that will become the leading one for market purposes; *Dolly Varden*, very effective; and *Mrs. John Marshall* (Pestridge), fine in colour and of excellent habit.

The best Gold and Bronze, or Bicolor varieties grown for market, are:—*W. E. Gumbleton*, having a fine, broad, reddish zone, a good, robust variety, that sells well; the *Shah*, distinct and fine, and excellent habit; *Mrs. Harrison Weir*, not a heavy zone, but a taking variety; and *Mrs. Quilter*.

The main part of the work of propagation is done in January, February, and March, from plants wintered in 48-pots. The kind of wood preferred for cuttings is the young hard growths, such as might be expected to come on semi-starved plants. A sappy, vigorous growth makes but indifferent cuttings, and they are slow and uncertain in rooting, while the former roots quickly. The later cuttings, as a rule, make the best plants, as they start away into growth at once when the weather has become more genial, and there is no check to their onward progress. In May and June some of the latest-struck cuttings, being too small to market, are planted out in the open ground, and as soon as the shoots are large enough, cuttings are taken from them during the summer. These plants, lifted and repotted in September or early in October, also make capital stock plants, from which to get cuttings in the winter and early spring months. The cuttings are put singly into small 60-pots, and stood on shelves near the glass, and when sufficiently well rooted are potted into large 60-pots, and some of the biggest into 48's.

The houses in which the plants are grown during the winter and spring are rather more roomy than those in which market plants are generally grown; they are light, airy, and dry, and in sunny positions. The temperature maintained during winter is from 50° to 55° , rising to 60° and 65° with sun-heat. Plenty of air is given on all favourable occasions; water is given sparingly till growth sets in. Indeed, the rule is to keep fairly dry on dull days. Water does not hurt the plants when the temperature in which they are growing is genial and kindly, and the plants healthy. An unhealthy plant is an exception to the rule in Mr. Pestridge's nursery.

Then as to soil. For the gold and silver tricolors, Mr. Pestridge uses about two parts of light loam and one part of leaf-mould, with a good sprinkling of silver sand. The gold and bronze varieties stand a stronger loam and a little old manure, as they root more freely than the tricolors.

The great secret of success with these gaily-coloured plants, as indeed with all market plants, is the constant attention they receive at the right time. They are never neglected or forgotten. This is the golden rule of plant cultivation. It is because of this, and the observance of the conditions named above, that the leaves flash out with such brilliancy of burning hues,—painted by the sun, and intensified and refined by touches of human skill. These charming foliaged plants, splendid with leaf-tints that put into the shade their best flowers, “their Maker's name in silent pomp display,” and set the seal of goodness on His marvellous handiwork.—RICHARD DEAN, *Ealing, W.*

VILLA GARDENING FOR JULY.

 PAPER having this heading might very appropriately commence with some observations on the importance of watering—for is not July the season of heat and drought, when the sun shines clear out of an unclouded sky, when the winds are low and soft, and living creatures seek the shade? What if it is the month of St. Swithin? The traditions of the watery Saint are not always observed; and indeed, so much of rain has fallen of late, that it will soon be necessary for the clouds to seek a fresh supply, to recoup their overtaxed resources. But July may be as wet as May and June, and it would appear as if St. Swithin has anticipated his annual visitation by a month or two. At present, except for plants in pots, there is little need for the use of the water-pot out-of-doors.

GREENHOUSE.—Unforced *Azaleas*, that is, those that have come on into flower without the quickening influences of artificial heat, have been late, but have done flowering, and all the seed-pods should be picked off, and the plants put into the warmest part of the greenhouse, to make growth and set the buds; a shift can be given to such as require it. All *greenhouse plants* required for late blooming will be the better for a shift, for the purpose of growing them on into good size before blooming. *Camellias* may be shifted if necessary, but if well potted in the first instance, the villa gardener may console himself with the fact that they will flourish in the same pots for three years in succession; and to overpot them is an injury from which they may never recover. When *Camellias* and other plants have become potbound, and it is inconvenient to give them larger pots, they are greatly helped by a slight top-dressing of Standen's Amateur's Friend manure, or Amies' prepared manure, carefully applied twice a week, by sprinkling a little over the surface of the soil, and washing it in the act of watering. *Fuchsias* represented by last year's plants, cut back in early spring and repotted, are now very gay and effective subjects for the greenhouse. *Fuchsias* are so bounteous of bloom, and on the whole so easily managed, that they may well be relied on to be a staple feature in the summer display. Frequent syringings overhead and plenty of water at the roots are necessary, and an occasional dressing of the manures mentioned above, in the case of densely-rooted plants, will be found of great service. A few spring-struck *Fuchsias*, potted on as fast as possible, and stood out-of-doors till about the middle or end of the month, will be found very useful in the conservatory during August and September. By pinching back some of the *Zonal Pelargoniums*, and by potting on cuttings struck in May; by

looking well after *Petunias*, *Balsams*, *Celosias*, *Trachelium caeruleum*, *Mimulus*, and other things, there need be no lack of flowering plants till autumn comes on, in the procession of the Seasons. Water freely in dry weather, shade from hot sun, and give abundance of air on all favourable occasions. Especially pay attention to the cleanliness of the plants. These are the simple conditions by the observance of which the greenhouse can be made most effective and pleasant.

FLOWER GARDEN.—The chief thing to do is to keep the garden tidy and neat, by clearing the borders and beds of leaves, removing dead blossoms, &c. Grass plats, grass edgings, and edgings of all kinds formed of plants need to be kept neatly trimmed, as if they are permitted to become coarse and slovenly, they quite change the aspect of the garden. Those villa gardeners who make a small plantation of Briers and bud a few *Roses* every year scarcely need to be reminded that July is the month for budding. After heavy rains is the best time, and the operation should be performed at dawn or after sunset; but early morning is generally considered the best, as the sap then flows freely. *Hardy Perennials* and *Biennials* should be sown for next year's blooming, such as *Foxgloves*, *Delphiniums*, *Scabions*, *Zinnias*, *Sweet Williams*, *Brompton Stocks*, *Canterbury Bells*, and others. The seed-beds should be made up in a warm border, where they can be shaded from the sun if necessary, and as soon as the plants are large enough be planted out in nursery beds, preparatory to being finally planted out to bloom. *Chrysanthemums* in pots for autumn flowering should now be standing out-of-doors on an ash-bed, and be kept well watered and syringed overhead. Any check now will be serious, especially one from drought. It is not too late to put in *Pink* pipings in a shady place, in some light, free, sandy soil, putting a hand-glass over them. Towards the end of the month *Carnations* and *Picotees* should be layered; in this way, strong plants are had for autumn planting. It is not too late to plant out *Pentstemons* and *Antirrhinums* for blooming in autumn, but it should be done as early as possible. These plants, being young and vigorous, stand the winter well, and come into bloom early the following summer.

KITCHEN GARDEN.—As soon as the crops of *Early Peas* are over, pull up the haulm and clear the ground, dig it over, and plant out *Broccoli*, *Savoys*, *Cabbage*, *Kales*, *Coleworts*, and *Early Dwarf Cauliflowers*. If the weather be showery, plant out between showers. If it be dry, have some liquid mud by, and dip the roots of each plant in it before putting it into the ground; plant out in the evening, and the following evening give a little water to each plant. At the end of the month a bed of *Winter Spinach* should be sown; it is well to

do this early, as a better crop results. Do not be in a hurry to earth-up *Celery*, but draw a little soil up to the roots, and keep it growing fast. *Celery* grows but slowly after it is earthed-up, and earthing-up is intended solely for blanching it. Sow *Turnip Radishes*, for successional crops; and some *Early Turnips*, when a piece of ground can be used for the purpose. Hand-weed while the weather is wet, and carry the weeds away to the refuse-heap, as they will come in very useful for manurial purposes by-and-by.

FRUIT GARDEN.—As there is but little fruit on *Gooseberry-trees*, and only a fair crop on *Currant-bushes*, and the weather continuing wet, they will make a free growth. Some of the shoots should be taken out of the centre to admit circulation, leaving only so much wood as will bear a crop of fruit next year. The earliest and strongest of the runners of *Strawberries* can be taken off and planted up, to form beds in September. *Strawberry* beds should be renewed every three years. Tie-in and train *Wall-fruit trees* as needed, and use the syringe well if the weather be dry. Pyramid and bush trees are making a very vigorous growth, and it will be well to thin out some of the shoots, so that the trees be not too much crowded.—

SURBUBANUS.

GARDEN GOSSIP.

URING the past month the ROYAL HORTICULTURAL SOCIETY has held some very interesting meetings. At that on June 4, Messrs. Veitch and Sons, Chelsea, showed some very choice plants, for which First-class Certificates were voted. They were *Xeronema Moorei*, a very distinct New Caldonian plant, with iris-like leaves, and spikes of crimson flowers set on the upper edge of the horizontally inflected scape—a most distinct, curious, and showy plant, the last to flower of those collected by the late Mr. John G. Veitch; *Platycerium Hillii*, a Queensland Elk's-horn Fern, with short patches of sori; *Adiantum cyclosorum*, New Granadian, with the young fronds of a pretty reddish tint. Mr. Green, gardener to Sir G. Macleay, Betchingley, was awarded a certificate for a flower-spike and leaf of *Gunnera manicata*. *Lathyrus Drummondii*, from Mr. R. Dean (sent also by Mr. Green), a pretty rosy-carmine everlasting Pea, also received a Certificate. At the meeting on June 18, which was also the Great Summer Show, the finest bank of Pot-Roscs perhaps ever staged was shown by Mr. C. Turner, to whom the Lindley medal was awarded, so meritorious was the exhibition. Certificates were awarded, amongst others, to *Dracena vivicans*, from Mr. W. Bull, a narrow-leaved erect sort, dark bronze, edged with scarlet; to *H.P. Rose Countess of Roseberry*, from Messrs. W. Paul and Son, Waltham Cross, a strongly perfumed English seedling, with bright rosy-crimson flowers of fine form; to *Erica obbata expolita*, from Messrs. Rollisson and Sons, a fine heath of the Irbyana class, with gumless flowers, and likely to make a fine exhibition plant; to *Potentilla Prince Arthur*, from Mr. Marsham, Isleworth, a fine double yellow variety; to *Dactylis glomerata aurea*, a

golden-striped Grass, from Mr. H. Cannell; and to *Rhododendron The Tocsin*, from Mr. C. Noble, Bagshot, a rosy-purple variety, with large trusses. G. F. Wilson, Esq., had a fine plant of the charming *Lilium Hansoni*. Mr. Cripps, Tunbridge Wells, had *Clematis Earl of Beaconsfield*, of the *Viticella* type, with very deep puce-purple flowers, for which a Certificate was granted; and another, called *Lady Blanche Conyngham*, a double white lanuginosa, which was not so distinguished.

— THE other METROPOLITAN EXHIBITIONS have been of full average merit, the best being that held on May 22, by the Royal Botanic Society, which was exceedingly bright and effective. That held on June 12 was supplemented by Mr. A. Waterer's grand Rhododendron Show, which was open during the month of June, and was of more than usual interest; and by Messrs. Carter and Co.'s display of annuals in pots, which is not yet over, and which proved to be remarkably varied and attractive, affording a good opportunity for showing off the improved varieties which have been raised from some of the older annual flowers.

— AMONG the great PROVINCIAL HORTICULTURAL EXHIBITIONS of the past month may be specially noted those of Manchester and York. The Manchester show was opened on June 7, and was as usual remarkable for its grand display of Orehids, and included, among several competing plants, a specimen of *Anguloa Clowesii*, from Mr. Hubberstey, gardener to O. O. Wrigley, Esq., to which the Veitch Memorial Prize and Medal was awarded, and which had about 50 of its golden goblet-like flowers displayed beneath a noble crown of plaited foliage. Here a new permanent iron structure has been erected on the site of the wooden-framed tent. The general effect of the structure is excellent; the wood uprights or supports have been entirely removed, and the new trussed principals, 12 ft. apart, extend in one span of 60 ft. across the space occupied. The length is 324 ft., the width 60 ft., and the extreme height to crown of roof nearly 40 ft. The area of the ground covered is about 2,200 superficial yards, which is laid out suitable for exhibition purposes. Along the apex of the main principal a wrought-iron framing is fixed, so constructed as to harmonise in form with the curve of the principals, and to give support and inclination to the canvas. The framework of the roof is supported on fifty-five light ornamental east-iron columns, placed about 12 ft. apart, which are strutted and tied together with ornamental cast-iron spandril girders and wrought-iron diagonal tie-rods with ornamental cover-plates at the intersections. The York Show, which was held on June 19-21, was remarkable for its display of Fruit — one of the best of the present season. The Veitch Memorial Prize and Medal offered here for 3 bunches of Black Hamburgh Grapes, was won by Mr. A. Ferguson, gardener to B. Shaw, Esq., Cowick-Hall, Selby, with a nicely finished sample of moderate-sized bunches. There were seven competitors.

— THE *New York Tribune* points out that LANTANAS and VERBENAS belong to the same family and come from the same regions, both chiefly from Brazil, and recommends that those who are tired of attempting to keep plants of Verbenas in satisfactory health through winter, should make trial of the Lantanas. They are not attacked by the insects or mildew that assail their cousins, and they endure the heat and dryness of a sitting-room better,

or will keep well in a cellar that does not cool below 40 degrees. The flowers are as bright and as varied; fine shades of yellow and orange making up well for lack of blue or purple. They are always neat. The natural habit of growth is ascending and straggling, but they can be kept in any desired form by timely occasional pinching. They like full sun and rich soil. Cuttings are easily rooted in August or September, and they will begin to flower early in spring.

— MR. LEVESLEY, of Isleworth, grows a fine strain of compact Cinerarias, which he calls the DWARF COVENT GARDEN CINERARIA. In this strain dwarfness and compactness is combined with quality of a very high order. A model market Cineraria should be nine inches in height from the pot; the head of flower as many or more in diameter; the lowermost leaves should feather the pot, and the flower-heads should be bright-coloured, whether selfs, or parti-coloured, with a dark disc to give effect to the blooms. Mr. Levesley's strain contains some novel shades of colour, as silvery-lilac, pinkish-lilac, and lilac-mauve, generally well-defined in the hue; some of the blue selfs are particularly rich, the crimsons singularly bright, and the magentas very telling. The character they possess of displaying the head of bloom well to the eye is one of great value. The seed is sown about the first week in June. At the time of potting into the blooming pots only hard loam is used, the plants being potted firmly, and plain soft water only given to them, no stimulants being used.

— A SUCCESSFUL importation of AGAVE VICTORIE REGINÆ has been effected through the agency of Mr. L. Kienast, formerly Swiss Consul-General in Mexico. Out of 120 plants 58 arrived in capital condition. This species, according to Mr. Considerant, the original importer, inhabits the neighbourhood of Monterey, Nuevo Leon, North-Eastern Mexico, whither a party of Indians was sent by Mr. Kienast's friends. After some weeks' fruitless search, they returned empty-handed. However, a second party was sent with instructions to penetrate inland beyond Monterey, and explore every hill-side and plateau until the plant was discovered. About eighty miles beyond Monterey the Indians found the plant, and brought away between six of them 120 specimens, as many as they could carry. De Smet, of Ghent, has purchased the stock.

— A NEW English edition of BALLET'S ART OF GRAFTING AND BUDGING has been published by Macmillan and Co. The high character of the book is now well established, and those who have either grafting or budding to perform cannot do better than study it and follow its advice so far as it suits each particular case. It is well printed, and issued in a neat and handy form.

— THE Hon. and Rev. J. T. Boscawen has added £5 to Mr. W. Robinson's first year's PRIZES FOR ASPARAGUS. The first competition will be held for these prizes at the Bath and West of England Society's Show in 1881. Prizes will be offered for market-garden-grown Asparagus, as distinct from that grown in private gardens.

— AN old but efficient SNAIL AND SLUG GUARD may be formed out of sheets of perforated zinc, cut to a size sufficient to surround

a plant to the depth of 4 in. Before placing the guard in position some fine cinder-ashes should be spread on the surface of the soil round about the plant. The slugs will not attempt to scale the zinc ramparts, and they do not care to thrust themselves through the soil under its walls, the gritty particles of the ashes not being at all to their liking. As plates of perforated zinc are by no means expensive, a number of guards can be had at a comparatively small cost. They should be used without any paint or colour being placed on them.

— **M**R. KNIGHT, of Floors, has recently given the result of his experience as to the efficacy of a weak solution of PARAFFIN FOR THE DESTRUCTION OF SCALE, as recommended some few years since. His plan was to syringe the plants infected with bug and scale with a wash made up in the proportion of one wineglassful of paraffin oil to four gallons of water. The oil and water require to be kept thoroughly mixed with the syringe—one squirt into the can and one on the plant. This was used with Oranges, Gardenias, Crotons, and many other plants which had bug and scale on them, and while the young leaves were not in the least injured, it proved certain death to the insects.

— **I**T is easy to strike MIGNONETTE FROM CUTTINGS, provided the proper time and the proper cuttings are chosen. Cuttings from the open ground in the autumn probably will not strike; but the small shoots which the larger cuttings produce will root at once. Many cuttings are lost entirely through this being overlooked. The small growths that many larger cuttings make will invariably strike readily, whereas the effort to produce them usually ends in the loss of all, if advantage has not been taken of these secondary shoots.

— **T**HE LONDON INTERNATIONAL HORTICULTURAL EXHIBITION is now definitively fixed for 1880. It has been postponed in consequence of the present depression in trade, the counter-attraction of the Royal Agricultural Society's Show in 1879, and the fact of the Antwerp Show falling also in 1879. The "International" Committee in the meanwhile will take such preliminary steps in reference to securing a suitable site as may seem desirable. Sir D. Cooper, Bart., is Chairman; Mr. T. Moore, F.L.S., Honorary Secretary; and Dr. Masters, F.R.S., Hon. Secretary for the Congress.

— **W**E read in the *Garden* that MECONOPSIS ACULEATA has lately been flowering on the rockwork in Messrs. Backhouse's nursery at York. This truly majestic poppy of the Himalayas has large bluish-purple flowers, which are borne in profusion on a long spike, the plant growing a couple of feet in height, the pinnatifid leaves four to eight inches in length, and the attractive flowers two to three inches in diameter. Unlike Meconopsis nepalensis, which is not much more than a biennial, this beautiful species is a true perennial.

— **A**T Kew, the APONOGETON SPATHACEUM, lately introduced from the Cape, has lately been flowering for the first time. It proves to be a gem in its way. The leaves are rush-like and erect, not floating on the water. The inflorescence is quite a miniature of that of *A. distachyon*, the flowers being, however, more thickly disposed; they have a pretty touch of blush-pink, but, unfortunately, are without the perfume of the more familiar species.

Obituary.

— **M**R. JOHN CUNNINGHAM, of Auricula renown, died on March 28, at Paisley, at the patriarchal age of eighty years. As a raiser and cultivator of Auriculas he has left a worthy name in the annals of floriculture. Among his seedlings distributed by name are John Waterson, grey edge; Peter Campbell, Tam o' Shanter, Sonter Johnnic, and John Read, green edges; Mrs. Campbell and Miss Campbell, white edges; and a fancy variety with a yellow ground named Golden Maid. He disposed of the greater part of his best novelties to the late Mr. Peter Campbell. One of his productions was a dark self, which he thought very highly of, and named in memory of the late Rev. George Jeans, but it is to be feared this is lost.

— **T**HE Rev. B. H. MARGETTS died at Lyddington, near Uppingham, on June 10, at the age of 31. Mr. Margetts, who was formerly curate of Finedon, near Wellingborough, was a successful cultivator and exhibitor of Chrysanthemums at the exhibitions of the Northampton Chrysanthemum Society. He was an ardent florist, with a great *penchant* for the *Auricula*, and was both a subscriber to and an exhibitor at the exhibitions of the Southern section of the National *Auricula* Society. Of late years his health had not been good, and a fit of severe haemorrhage of the lungs caused his death in a week. His collection of *Auriculas*, at his own request, will pass into the hands of his dearly loved friend, the Rev. F. D. Horner, to be kept for his sake.

— **M**R. GEORGE WHEELER, nurseryman, Warminster, Wilts, died on June 10, at the age of 87, full of honours and amid the deep regrets of many friends. The late Mr. Wheeler's father went to reside in Warminster in January, 1773, and established himself there in a small way of business as a nurseryman; here on August 2, 1791, his son George was born. In September, 1805, he left home and obtained employment at Fonthill Abbey, the residence of W. Beckford, Esq.; here he remained till 1808, when he went to Miller and Sweet's nursery at Bristol till March, 1811, when he engaged himself to Jonathan Salter, nurseryman, of Bath, for whom he worked till 1813, going from thence to Bowood, the residence of the Marquis of Lansdowne, remaining there about a year, when he went to London, and obtained employment in Messrs. Gray's and Malcolm's nurseries. In 1816 he returned to assist in his father's nursery, which, on the death of the latter in 1819 or 1820, became his own, and he has carried on business there ever since. Here he worked up a general nursery business, taking in florists' flowers, and if not the first, was one of the first who budded the Rose. The first spotted Calceolaria was raised at his nursery, also the first double Fuchsia, named Sir Colin Campbell, which was figured in the *Florist* for 1859. His love for plants was unbounded, and especially for herbaceous and alpine plants; he sent out Delphinium alopecuroides and Wheeleri, Tigridia Wheeleri, and other good things in this way; also Genista præcox, a fine early-flowering cream-coloured Broom. The late Mr. George Wheeler will perhaps be best known by his Imperial Cabbage, which, as grown and selected at Warminster, is one of the finest cabbages in cultivation. He was one of the judges at the late George Glenny's great Dahlia show at Salt Hill, in 1838.





AZALEA DUKE OF EDINBURGH.

[PLATE 472.]

 HIS very fine English seedling Azalea *indica* was raised by Mr. A. Parsons, gardener to Captain Blake, at Danesbury, Welwyn, a thoroughly practical gardener, and one who has always had a great regard for florists' flowers, and been esteemed for many years as one of the best judges of that class of productions. We have to thank our old friend Mr. Parsons—our frequent colleague as a floral censor—for the flowers represented in the accompanying plate, which well represents the fine form and character of the variety, but fails, as artificial colours must do, to give more than an indication of its brilliancy.

The variety is called DUKE OF EDINBURGH. It is of free-growing, vigorous habit, with

healthy foliage of the usual character. The flowers are very large and stout, very smooth both on the surface and at the margin, and abundantly produced; their colour is a bright rich salmon-red, the upper side of the flower being moderately spotted with deep crimson. The solid, though not heavy, colouring, and the large size of the blossoms, place it in the first rank of ornamental varieties, since it combines effectiveness with floral qualities of a very high order.

A First-class Certificate was awarded to the *Duke of Edinburgh* on May 3, 1876, when it was exhibited before the Floral Committee, and no award of that body could be better deserved.—T. MOORE.

ON THE PRESENT FAILURE IN THE APPLE AND PEAR CROPS,
AND THE CAUSES WHICH HAVE LED TO IT.

 HE present season, although not so disastrous to fruit-growers as the two immediately preceding it, has yet disappointed the hopes of those who, encouraged by the absence of frost in May, and a promise, in many cases, of abundance of fruit, were led to expect exceptionally favourable results. An inquiry into the causes which have led to so great a failure in the crops of Apples and Pears may not be without interest to your pomological readers.

Turning to our meteorological register, I find that the weather from February 20 to March 8 was of a character to encourage the action of vegetation. An average night-temperature of 40° in the air, a maximum temperature ranging from 52° to 60° , and an earth-temperature of 44° most certainly gave an early stimulus to fruit-trees, and expanding and bursting buds sufficiently told how much fruit-trees had been excited by the unusual warmth of an early spring season. From March 9 to March 21, there was a gradually declining temperature, with intervals of abnormal warmth, until the 21st; but the weather was not unfavourable, and the rapidly-budding fruit-trees remained without a serious check until the 21st, when a great depression of temperature occurred, and lasted until the 7th April. During this period frost was recorded with greater or less severity

on every night, while the earth-heat, instead of advancing with the season, fell from 44° to 40° .

Perhaps less apprehension was felt in regard to the action of this weather on fruit-trees because, in the majority of cases, the fruit-blossom had not expanded, and the folded petals seemed sufficiently to guard the delicate organs of fructification; but the experience of this season has taught us that the susceptibility to injury by weather of the blossom-buds of Pears and Apples, is greater at a period prior to the full development of the flower than when the flower is fully expanded; and a lesson like this is of great value, warning us to be early in placing protective material on our trees in spring, and telling us, in orchard-house management, at what moment a certain heat is essential.

The question as to the period at which the flower-bud and expanded blossom are most susceptible to injury from weather is an interesting one. The results of the present season appear to me to confirm the opinion I have expressed above, that a given amount of frost is more fatal when inflicted on undeveloped than fully expanded flowers. The vital energy of a tree is greatest when its blossoms are expanded, and the individual vitality of each flower is greater at the time of its perfect expansion than at an earlier period, and the

power of vital resistance to the influence of weather is proportionately larger. This view seems to gather confirmation, from the fact that the more advanced early-blooming and early-bearing Pears, such as *Doyenne d'Eté*, *Citron des Carmes*, *Williams' Bon Chrétien*, are bearing good crops this year, while the later sorts are singularly thin. Again, Plums, the expanded blossoms of which were exposed to severe weather, escaped uninjured, and are bearing abundantly.

One other circumstance which acted preju-

dicially on fruit-trees must also be taken into account, in reviewing the causes which led to the partial loss of the Apple and Pear crops. It was the excessive rainfall of May. In this dry district, rain fell on 25 days during the month, and our record was 4·25 inches. The ground, thus chilled and surcharged with water, naturally affected fruit-trees; root-action was checked, and the result was seen in the yellow, unhealthy look of the trees, and the fall of the little fruit that remained on some of them.—WM. INGRAM, *Belvoir*.

THE REV. G. JEANS ON THE PHILOSOPHY OF FLORISTS' FLOWERS.

No. V.

“**F**ORM, considered absolutely, possesses a double origin of beauty; its two branches being, as in so many instances, in apparent contrast with each other. The two branches are **UNITY** and **VARIETY**. And these should be always combined, the rather because the combinations they admit of are unlimited. Nor is it necessary that either branch should be considered more essential than the other, but in proportion as in any flower or variety the value of one is increased, the other may recede and give way, without being entirely obliterated; as in flowers of the disc or of the cupped form, unity is the leading property; in the composite forms, as the *Fuchsia* or the *Ixia*, variety takes the lead.

“By **UNITY** is meant the singleness of idea presented to the mind, whereby the impression becomes definite and clear, not being distracted by contending claims, nor divided among many: as a cup formed of petals in contradistinction to six equal and separate petals, without the combining and controlling idea of a cup. When applied to an outline, it means the appearance when that outline is one and unbroken, as in the circular form of a *Petunia*.

“Its contrary is produced—

“In idea, when a flower consists of a plurality of like and equal parts not uniting to form one idea, and especially if those parts are circular, as in the *Veronica*.

“In outline (1), by the occurrence of an interval; either by a breach of continuity in the substance, as in the flower of the *Arum*, causing an effect like the less of a guard-leaf in a Carnation; or by a separation between the parts which compose it, as in the petals of the Night-scented Stock. To this may be referred the broken edging in a *Picotee*, and broken lacing in a *Pink*. (2) Or by an abrupt change, either of kind, from a straight line to a curve, or from a curve to a

straight line, as in the Pea-blossom; or of direction, as when two straight lines terminate in a point, as in the pointed petals of the *Narcissus*.

“By **VARIETY**, when combined with unity (for simply considered, it needs no explanation), is meant the comprising many ideas under one—that the unity is not a dry unit.

“When applied to an outline, it means the appearance when the line is flowing and continuous, yet constantly changing; such as is a curve, as in the circular blossom of the *Convolvulus*, or a succession of segments of curves, themselves arranged in a curve in the *same* plane, as in the flat circle composed of lobes in the *Phlox* or the *Verbena*: or in the more complicated outline composed of curves and lines in *different* planes, as in the *Fuchsia*.

“When applied to the contents of an outline, it again explains itself, and is fulfilled when all is not same or self, but varied with diverse forms and colours.

“Now with regard to the influence which these two sources of beauty exercise upon our judgments. First, with respect to **UNITY**. If an external outline be broken, one or more of these three effects will be produced: either it will convey an idea of imperfection, that something is defective, and needs to be filled up; as in the native *Pansy*, or much more in an inferior cultivated variety, in which the improvement is begun, but only to the extent of making the defect more glaring by shewing how it may be removed.

“Or, if the parts are equal and similar, as in the *Iris*, the flower will not be *a whole*, to produce one leading idea in which the others it may suggest are contained, but will be broken into parts, and its effectiveness diminished to that of a flower of the size of one of its parts.

“Or the general appearance will be marred by the impression of roughness and harshness, causing to the eye a sensation analogous to

that communicated to the hand by its passing over a rough, uneven surface. This is exemplified in many flowers, even in the Lily, and still more in the ragged edge of some Pinks and Carnations; because in them the defect is in such close juxtaposition with the means of its cure—a curve in the outline of the petal; and this curve already exists at the base of the serrated point. It always gives an idea of harshness.

“It is not, however, always that these defects can be expected, or wished, to be removed by cultivation. In the *Gladiolus*, *Iris*, *Ixia*, and others, they are of the essence of the form, and the flower would quite alter its character were they removed. The alteration, if effected, would very possibly be no improvement, and at least it would be a complete transformation of the original. When this is the case, the flower must be content to take a lower rank with such as are incapable of the highest assemblage of excellences, but will not be the less esteemed for the qualities it does possess. Nor is it desirable that all should be of one class.

“Moreover, in some of this class the primary outline which gives the leading impression of the flower lies *within* the irregular parts, as in the *Tigridia*, the slightly concave disc of which is sufficiently distinct, and the protruding flaps of the alternate longer petals overhang its edge, and sometimes fall down from it, like the lappets of a lady’s head-dress of the reign of Queen Anne. Owing to this, the flimsy substance of the outer portion of the longer petals is no fault.

“Nor is unity altogether lost in any of these flowers, except in such as contain a primary division of the corolla into two or more like and equal parts, as the *Iris* does, and many smaller flowers, as the *Veronica* instanced above, in which the parts are circular, and therefore complete in themselves. This quality, therefore, is most essential to the flower as a whole, and should accordingly be always more or less found under the general outline.

“Next let us consider the effect of VARIETY. This is even more essential to a pleasing form than unity is. It is, as it were, the substance, while unity is the form in which that substance should be presented; for without it, the ideas suggested can be at best but scanty; and it is by a succession of ideas that pleasurable emotions are excited; while at the same time variety, though ever so charming, if not included in one leading impression, will be desultory and unconnected,—there will be a break in the current of thought, and the result will be harsh and disagreeable.

“It may consist in forms, or numbers, or colours, or in any combinations of these. We have here principally to deal with the first, with some remarks on the second.

“In the general or primary outline, variety arising from form can only be considered an element of beauty when it is easy and flowing. To explain which, it is necessary first to make clear the difference in the effects of straight lines and curves, for outlines can only be formed by straight lines and curves, and the characteristic effects of these are diametrically opposite to each other.

“A straight line is one the direction of which is always the same, whence its effect is to accumulate force upon a point. And the impression produced by it will be asperity, brilliance, and power. A straight line by itself gives no idea but that of simple progression, as in the stem or bolt of a plant, and in the subjects of the present inquiry can never be of a length sufficient to require further notice. But there are two positions, in combination, in which it has considerable power over the appearance of flowers, illustrating what has been said of its impression, namely, when grouped in clusters radiating from a centre in the form which painters call ‘a glory;’ and contrariwise, when two or more of them terminate in a point or angle outwards. Both these forms are often very effective in a subordinate outline, though either, if prominent, would be a marked defect in the principal one.

“Lines radiating from a centre are found in many markings of flowers, as in the eye of a Pansy, the colour of an *Auricula* (in which they resemble the streamings in the arch of an aurora borealis), and the pencillings of the black petals of a *Pelargonium*. Nor is it of much consequence whether those lines, if they are mere lines, are strictly straight, or, as is more common, wavy and involved; they are more forcible if straight, and more feeble if curved, but are for the most part subject to the same remarks. In all cases, the ideas suggested by this form must be completely subordinated to that of some other in which it is included, or it will give an idea of coarseness, as in a veiny *Pelargonium*, or of harshness, as in a very narrow-striped Carnation.

“Straight lines running outwards to a centre, that is, meeting in an angular point, are not infrequent in the principal outline of many natural flowers, as in the pointed petal of the *Auricula* or *Dahlia*. In such cases it is invariably a fault, although in flowers destitute of high properties, as the *Cineraria*, the defect is lessened in the same ratio with the importance of the single bloom.

“Sometimes a floral disc is made up of florets, as in the natural single *Chrysanthemum* and *Cineraria*; in which case, the outline being formed of the ends of the florets or petals, if any character is expected to be attained in the individual blossoms, the angular points must be got rid of as soon as possible. In the present state of the latter flower, the

general outline being rather that of the entire bloom of the whole plant, the minute appearance of each particular blossom becomes secondary, and the starry outline is less of a defect.

"But even in the general outline, absolute perfection in getting rid of this appearance is in many flowers certainly not to be wished. The resulting appearance would be tame, from the want of a foil to call attention to the beauty of the more perfect part of the form. This would be especially the case in the *Auricula*. Small processes in the way of points to the petals are clearly serviceable to the general appearance, though lobes produce the same effect in a less objectionable way. In a subordinate position, a distinct star, or a starry appearance, would have all its lively effect, without involving the charge of roughness.

"*A curve* is a line the direction of which is deflected at every point according to a fixed law, whence its effect is to disperse instead of concentrating force. And the impression produced by it will be that of gracefulness, gentleness.

"Curve lines are of two kinds, of single and of compound curvature; the former being those of which the flexure is always in one direction, as the circle, ellipse, and others. The latter are those which are not always concave towards the same parts, but the curvature is alternately in opposite directions, or such as that a straight line might meet them in more points than two. The quilled form is an instance of it. Curves of high mathematical complexity of both kinds are found in flowers. The hyperbola is represented by the blossom of the *Arum*. In the detached petal of a good *Tulip*, and in some other flowers, the two portions of the outline divided by the axis or line of symmetry are asymptotes to each other and to the axis.

"The general outline of trumpet and of bell flowers is commonly of double curvature. So is that of some disc flowers. And when, as in the best varieties of the *Polyanthus*, the segments are small and equal, and symmetrically arranged upon the circumference of a circle, they form one of the most pleasing and effective of all.

"The *circle* is the curve which, in proportion to its length, encloses the greatest space, and therefore, for a containing outline, it is theoretically the most perfect, and must ever stand the highest in reference to its capabilities. Its diameter, moreover, being in all directions equal to itself, it has nothing to attract the eye to one part rather than to another, but all is equable. These properties belong to no other curve, and therefore it possesses advantages for a general outline which no other possesses.

"It does not, however, from thence follow that a *circle* is one plane, or presenting a flat surface, is the most perfect. On the contrary,

we should say, *a priori*, that the spherical form which presents a circle in *every* direction would be superior. Whether in any given instance it is so, will depend on several considerations, as the characteristic of the flower, the form and disposition of its colours, and in part also on its size. What is invariable is, that the circle, abstractedly speaking, must take the first place among curves for a primary outline, as will be admitted at once on comparing a circular with an oblong *Pansy*.

"In secondary outlines the *oval* is often better than the circle, because completeness is in them not unfrequently out of place, as being an element of separation, not of union; and the want of fullness and completeness in a figure disposes the eye to connect it with surrounding objects to make up what is wanting.

"To sum up, therefore, the difference in the impressions produced by straight lines and curves. A straight line concentrates its force in one direction, and produces the idea of pungency and sharpness. In following a curve, the direction of the eye is in a constant state of change, and therefore no accumulation takes place; and as the change can never be abrupt, the perception arising from it is one of smoothness, softness, and elegance. Hence curves alone are suited to the general outline, because the general notion of beauty must be one of softness; while a moderate amount of straight lines, and of angles produced by them, are effective in contained figures; and to reverse this, is an analogous mistake to that made by Petruchio in offering his mistress mustard instead of beef. —IOTA."

EARLY CHERRIES.

O fruit more amply and generously rewards the orchard-house cultivator than the *Cherry*. In the spring the pearly and pure white blossoms are very beautiful, and the rapidity with which the fruit follows the shedding of the flower-petals is very heartening and pleasant. My house, not a large one, but containing some choice varieties, was in bloom this year during the last days of March, and by the first week in June I had already gathered fine and ripe fruit, without any artificial heat, and in spite of the long spell of dull and sunless skies. The trees, laden with deep red and black shining fruit, are pictures of beauty, and I am sorry that I cannot, without injury to the trees, which are plunged in the earth, give them a place among the flowers in a London exhibition.

Cherry culture is easy, but to have the fruit in perfection, fully ripe and perfect, I

believe glass to be indispensable. A rough shed, with fixed roof and plenty of side ventilation, is, however, all that is necessary ; the side ventilation must be constant ; and to prevent the ingress of birds and boys, both sorely tempted by Cherries, a strip of wire netting should be nailed inside. If the meshes of the wire are not large enough to keep out robins, flycatchers, and tomtits, who all go in for Cherries, it should be supplemented by some lengths of fish-netting, which can be bought cheap second-hand. There is no need to shut up the house after May at all, unless early fruit is wanted. The pots, which must be of good size, should be perforated in the sides to allow the emission of roots, and plunged into a well-drained border of light sandy loam. So treated, the fruit will hang on the trees from June to October, no fruit except the Grape lasting so long.

The earliest to ripen this year has been the BIGARREAU JABOULAY (by some pomologists given as a synonym of Early Lyons, but here the two sorts are of diverse growth, although somewhat alike in the fruit) a sort which has been here for many years. It is a fine, large, and handsome Cherry. This is described by M. Simon-Louis, in the *Guide Pratique*, as a large fruit, heart-shaped, deep ruddy black, and ripe the first fortnight in June. In my Cherry-house, for several years, the fruit has ripened between the first and the third week in June. It is more a Guigne than a Bigarreau. The tree is vigorous, and in favourable situations it will very likely prove a good variety to plant for profit, as it is certainly one of the earliest large Cherries in cultivation.

BIGARREAU DE SHRIEKEN is another early sort which promises well. It is a German variety, and is a Bigarreau. It has, however, a tendency to crack, even under glass, and probably requires a very warm climate to develop its finer qualities. The fruit is large, colour a deep shining ruddy black, heart-shaped, with a more pronounced flavour than the Bigarreau Jaboulay. The tree is of vigorous growth, and is an abundant bearer in the Cherry districts of Devonshire, near Paignton. These early Cherries will be of great value.

The Early Rivers differs entirely from the two preceding varieties, except in precocity of ripening and in general excellence. It is a

seminal variety of the Early Purple Guigne, of which I have some eight or ten sorts, differing in no degree in fruit, but diverse in growth. This is a delightful orchard-house Cherry ; a pyramidal well-grown tree in a pot is a model of beauty, when the thick clusters of fruit are ripe. The tree is a healthy variety of the Early Purple Guigne, not so liable to gum ; the fruit is large, but the heavy clusters should be thinned out to obtain size. Colour, a deep glossy black ; flesh melting, sweet ; and perfection in flavour ; with a remarkably small stone —a very pleasant feature in a cherry. In a warm climate this sort would be a valuable orchard tree, but this district is too harsh, and it suffers in the open ground. As a wall-fruit, it is very valuable.

The BELLE DE ST. TROUÉ, another of the series, is a pretty and interesting Cherry, of the family of the Griottes ; it is as early as the Early Rivers ; the fruit is a bright, transparent red in colour, with a melting and honey-sweet juice. This is the first year this Cherry has fruited with me out-of-doors. It will probably ripen a week earlier than the May Duke. The tree has a dwarf habit, though healthy.

The sorts of Cherries, which can only be studied under glass, are very numerous and interesting ; the variation in seedlings is fully as great as in Peaches, and an enticing study is open to the experimentalist ; but to insure success, an orchard-house is absolutely necessary.—T. FRANCIS RIVERS, Sawbridgeworth.—(Abridged from the *Gardeners' Chronicle*.)

EARLY-FLOWERING PELAR-GONIUMS.

HAVE never yet seen any early-flowering Pelargonium to beat the very old *Album multiflorum*. It is unique in colour, not white, but a very faint mauve. The form, however, is not so round as in some of the newer kinds. *Floribundum* is also a very free-flowering kind, and its pip or half-open form is very useful, as it shows its bright petals before fully opening. These two early-flowering Pelargoniums are not to be beaten in first opening, or in quantity of flowers. We have scarcely any other in quantity. *Triomphe de St. Mandé* is a very fine, bold flower, and no doubt will become a very popular plant. At the same time, I would remind those who want early flowers not to forget the above two old acquaintances, especially *Album multiflorum*, for its uncommon colour alone. *Gauntlet*, too, is a very free-flowering kind, and not easily beaten in its way, but it is not of such a good habit as *Floribundum*.—HENRY KNIGHT, Floors, Kelso.

THE NEW ZEALAND FLAX, PHORMIUM TENAX.

I HAVE now grown this magnificent decorative plant out of doors, at Castle Kennedy, for upwards of twenty years; and the more I see of it, the better I like it. As a distinct, striking, ornamental, free-growing hardy plant, it has no equal here. Many of the specimens first planted form large masses from 3 ft. to 4 ft. in diameter, with crowds of upright, long, sword-shaped, light green leaves, throwing up every season flower stems 10 ft. or 12 ft. in height, loaded in autumn with their bean-like pods, and in most seasons ripening abundance of fertile seeds.

The *Phormium tenax* has of late years been extensively and successfully used here for decorative purposes; hundreds have been planted on the lawn near the Castle, in the shrubberies and around the margin of the lakes, in groups and masses, producing a telling effect. They thrive well in a great variety of soils, preferring a moderate loam to a tenacious clay. In mossy soils they are quite at home, as also in light loams, if not too dry. They thrive much better in a moderately sheltered than in an exposed position, but when planted in an exposed situation, if the leaves are tied together during the winter and early spring months, and slightly protected with a few branches, they thrive surprisingly. In planting in cold localities, a site neither very high nor very low should be selected.

I prefer the latter end of April for planting in permanent positions. Strong, well-established plants should be selected, and slight protection given for a few weeks, till the plants get well established. If the weather is dry, an occasional watering will aid much in securing success. When planted, as is too often done, during the autumn or winter, especially if the plants are small, they are almost sure to succumb to the first severe weather, and the plant is unjustly pronounced to be "not hardy." I do not mean to assert that in every locality this highly ornamental fine-foliaged plant will prove quite hardy. In inland and highly elevated situations our winters may be too severe for it, but in the warmer and less elevated situations, particularly near the sea-coast, it should be extensively experimented with, and where it succeeds, it will well repay the trouble

of those who interest themselves in its cultivation.

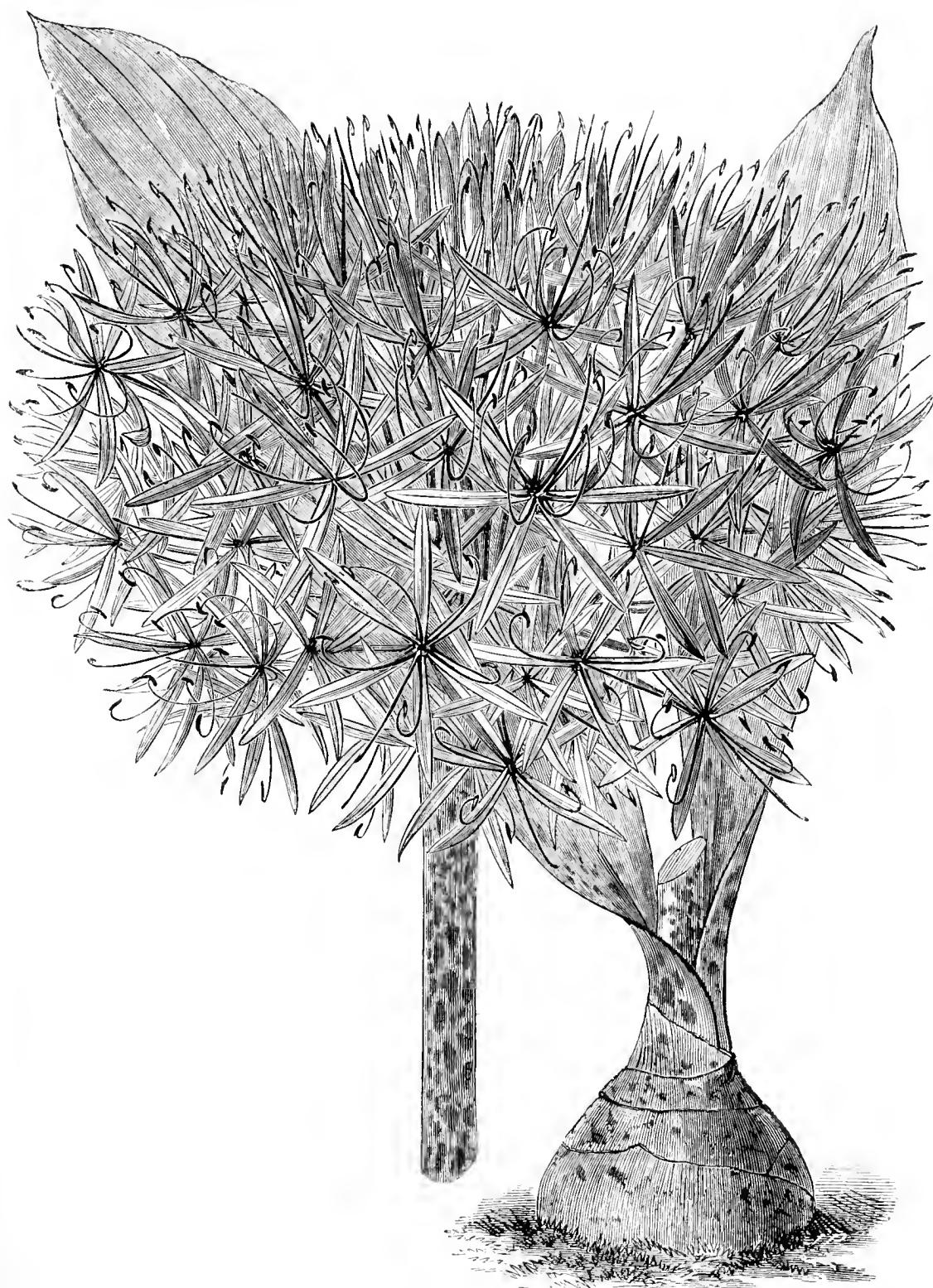
Seeing that the normal species did so well here, I procured, eight or ten years ago, a few plants of the variegated varieties, and planted them out of doors, in a warm, sheltered situation. The result is that they grow nearly as freely, and are quite as hardy, as the common variety, the variegation being all that could be desired.

This year we have introduced some of them as centres of beds in the flower garden with good effect, and I propose shortly breaking up some of the old plants for propagation, and thus largely increasing our stock of variegated plants; others we propose to grow for flowering, when interesting variegated seedlings may justly be expected to follow.—ARCHIBALD FOWLER, *Castle Kennedy, Stranraer.*

DRACÆNAS AS TABLE PLANTS.

THESE useful and handsome plants take a foremost rank among those which are suitable for table decoration. There are now so many beautiful varieties, perfectly distinct in form and character, that the sameness of aspect which was once so apparent when several varieties were brought together may now be altogether avoided. To be effective as table plants, they should be furnished to the base; therefore, it is necessary to be continually propagating, to keep up a suitable stock.

Undoubtedly the best mode of raising Dracænas in quantity is to propagate them from eyes. I have also seen the tops converted into new plants by partially severing the stem, binding the cut over with moss, and keeping it continually moist by syringing several times a day; but it takes some time for them to emit sufficient roots to permit of their being taken off and potted, and then they are very likely to lose their lower leaves. The best mode of procedure, when a plant is becoming too tall, is to cut the head clean off, and insert it in a bottle of water containing some pounded charcoal, to keep the water sweet, and to place the bottle near or on the hot-water pipes, so as to excite root action. When sufficiently rooted, draw them out of the bottle and pot into small pots, simply using silver-sand, in which the roots will make rapid progress, if stood in a warm, shady situation. They will soon become fit to pot on to any size required.—GEO. POTTS, Jun.



ILÆMANTHUS MANNII.

ON this plant we have one of a set of handsome stove bulbs, represented by the old *Ilæmanthus multiflorus*, which produce a roundish head of bright red Amaryllidaceous flowers. The plant of which an illustration is annexed, was introduced to our gardens last year by Mr. W. Bull, from Liberia, through his collector, Mr. Carder, and was flowered and ex-

hibited by him during the past spring. At South Kensington it received a First-class Certificate under the name of *II. rupestris*.

It has a large globose root-stock, with many fleshy fibres. The flower-scape is about a foot high, produced before the leaves, and is solid, terete, and striped with purple; at the top it produces an umbel of from 30 to 40 flowers,

which form a globose head four or five inches across when expanded; the pedicels are bright claret-red, and the flowers bright orange-scarlet fading to crimson, the tube cylindrical, and the segments linear lancolate, spreading, a little longer than the tube; the filaments are of the same colour, and rather longer than the segments. The leaves grow up separately, after the fading of the flowers, and are five or six in number, oblong, acute, and shortly petiolate. It is a very desirable introduction, forming one of a group of pretty, small-growing, manageable stove bulbs.—T. MOORE.

JUDGING ROSES.

 ONE of the best works done, as yet, by the National Rose Society has been the publication of the following outline suggestions as to judging at Rose Shows, compiled from the expressed opinions of leading rosarians. These rules were adopted, confirmed, and ordered to be printed and circulated at a meeting of the General Committee of the Society, held on May 18th last, Mr. R. N. G. Baker in the chair:—

I.—JUDGES.

1. The Judges shall, as far as possible, be *Three* in number for all small Shows, and for all Sections of large Shows.
2. They shall be selected principally from *successful exhibitors*.
3. They shall have no manner of *interest* in the Section in which they are Judging.
4. They shall *begin punctually* at the hour appointed.

II.—BOXES.

1. Roses must be *Judged* as they are in the boxes at the time of inspection. No other consideration of any kind is admissible.
2. The Boxes should be of the *regulation size* and *shape*, and set out with *moss*, unless otherwise specified. Boxes of the regulation size are 4 in. high in front, and 1 ft. 6 in. wide.

III.—PRIZES.

1. No Exhibitor may obtain more than *one prize* in the same class.
2. All Roses shown must have been cut from plants which have been the property of the Exhibitor for not less than *three months* previously.
3. All Roses should be *correctly named*.
4. The showing of Duplicates under the same name, still more under a different one, will *disqualify* the Exhibitor. Judges are expected to look closely to this.
5. Judges have power to disqualify for any infringement of the Rules on the Schedule.

IV.—METHOD OF JUDGING.

1. First cast out all *bad Boxes*.
2. Then *compare* the residue.
3. The following, when necessary, shall be the method of comparison:—(a) One of the Judges should *count* and *designate* the good *Blooms*. (b) The other two should stand by, and *stop* him when

they do not agree. (c) In every difference of opinion, a *majority* shall decide. (d) The *result* of such counting shall form the decision.

V.—POINTS.

Where points are found necessary, they shall be allotted as follows:—

1. *Three* points shall be given for the *best blooms*; *Two* for *mediums*; *One* for those not so good, but not bad enough to cut out; and an *extra* point for a *very superior Bloom*.

2. One point shall be *taken off* from the Box for every case of decided badness.

3. Teas and Noisettes shall have *no especial favour* shown to them as such.

4. Where stands are equal in respect of blooms, Judges shall proceed to consider the general *evenness, variety, arrangement, and setting-up*; the boxes being placed side by side, and in the same light, for that purpose.

DEFINITIONS.

1. A *BLOOM* or *TRUSS* shall be taken to mean a Rose, with or without buds and foliage, as cut from the tree.

2. A *GOOD ROSE* must have form, size, brightness, substance, foliage, and be at the time of judging in the most perfect phase of its possible beauty.

3. A *BAD ROSE*. All blooms or trusses shall be considered bad that have faulty shape, confused centre, or faded colour; and which are either undersized, or over-sized to the extent of coarseness, or of over-blooming.

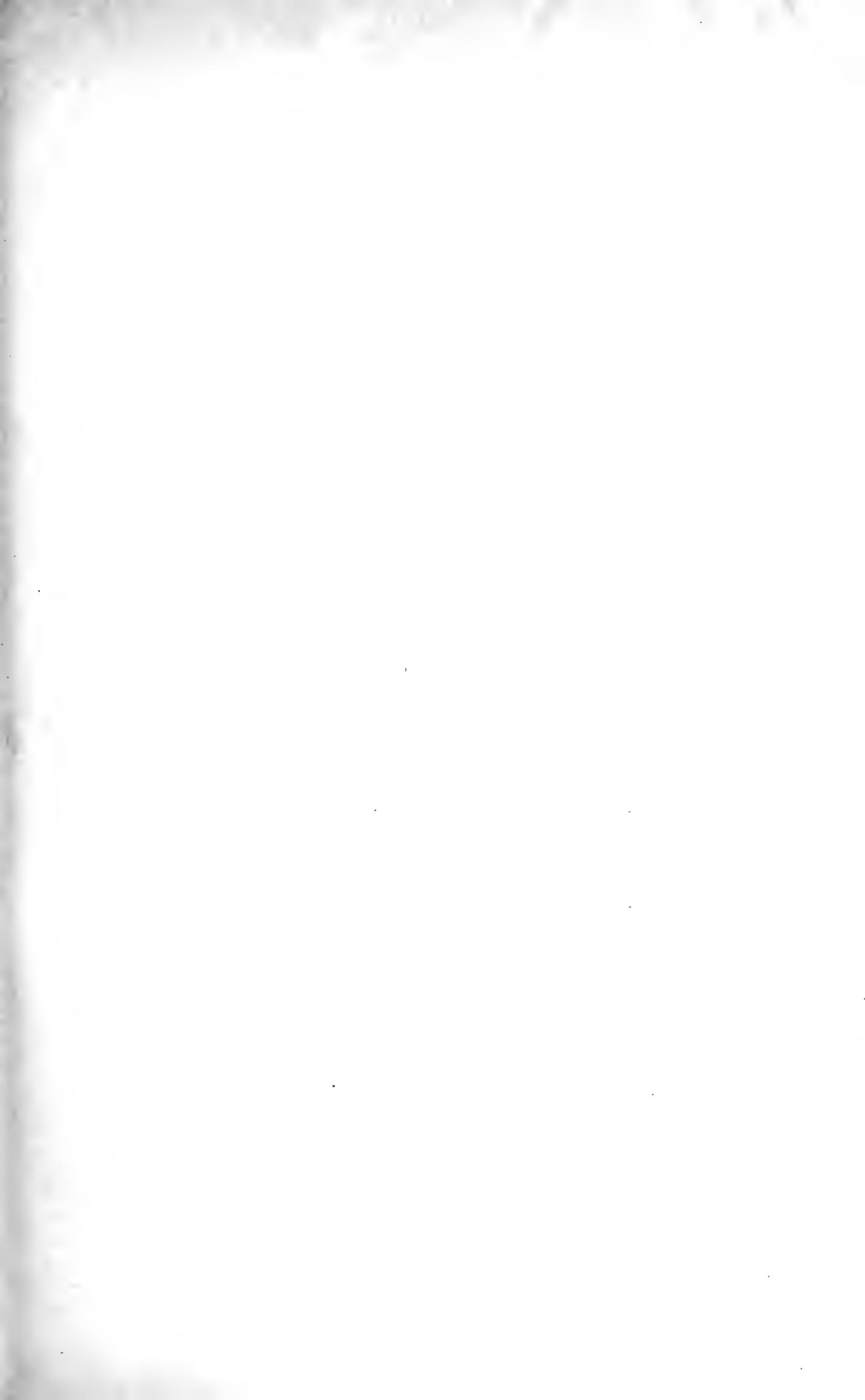
4. *FORM* shall imply petals abundant, and of good substance, regularly and gracefully disposed within a circular, symmetrical outline.

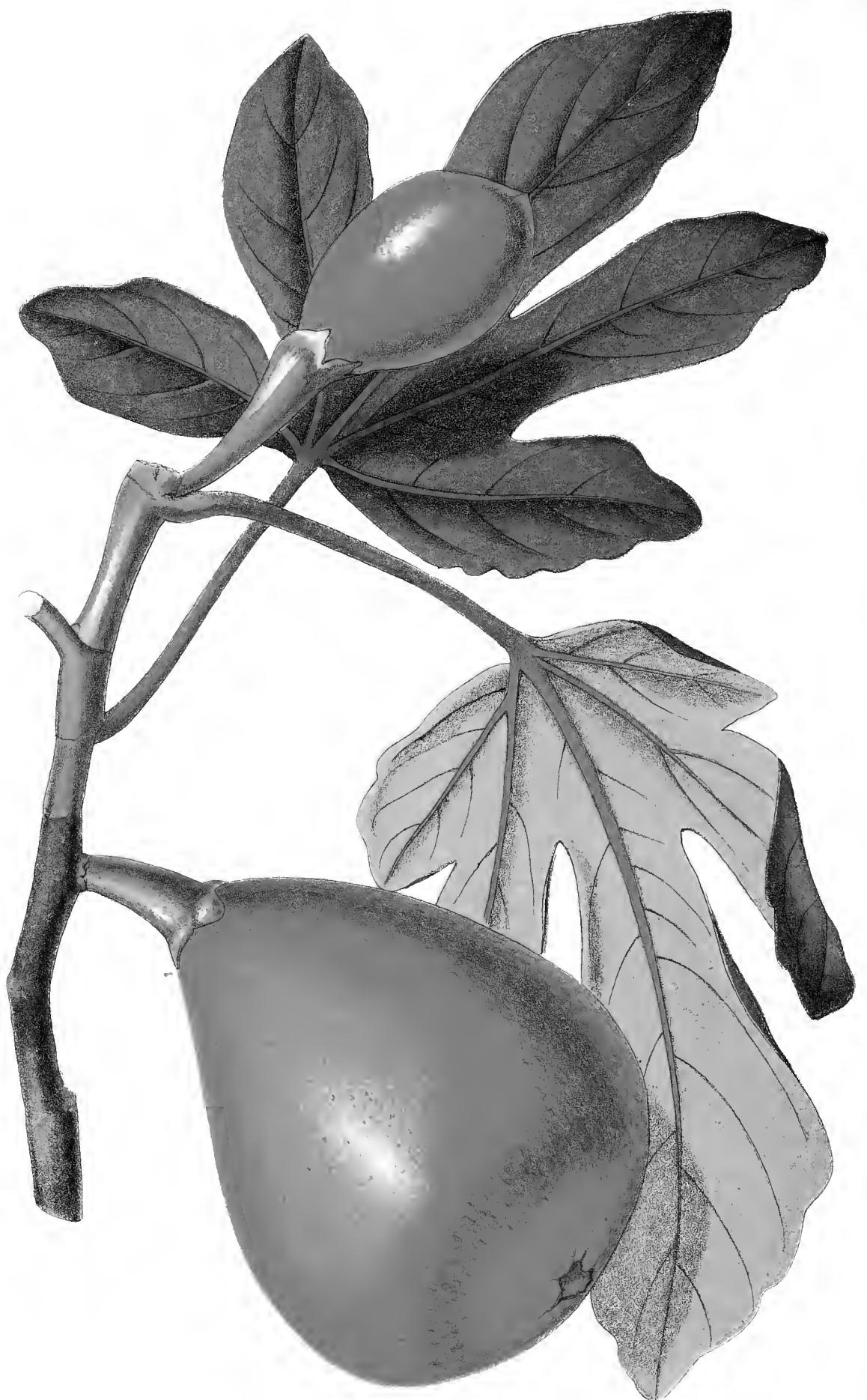
5. *BRIGHTNESS* shall include freshness of colour, brilliancy, and purity.

RASPBERRY CULTURE.

 AMONGST the various kinds of small fruits, the Raspberry is a general favourite, and is grown in nearly all gardens, however small. I have, however, found it difficult to produce good fruit in the strong soil of the kitchen garden here until lately, when I adopted the plan of adding plenty of leaf-mould and well rotted manure to the ground when planting the young suckers. The soil which I find suitable for the most successful culture of the Raspberry is a rich alluvial one. Peaty, sandy soils are likewise good, if treated with plenty of rotten manure, put on as a surface-dressing every spring, but there should not be any digging amongst the plants, to disturb the fibres, at the usual time of pruning and tying-in the canes. To have a good succession of this fruit, some should be planted on a north border, so as to be defended from the full blaze of the sun by a south wall. The autumn fruiters planted in this aspect will keep up the supply till September and October, when they are very useful for flavouring ices.

I find the best month for planting Raspberry suckers or offsets is October, for they then get





Fit. 11. 11

Fig. Col di Signora Bianca.

better established than when this process is left till the spring. In training and tying the canes to stakes, the mode of doing so here is to drive the stakes in a position leaning to the north. The young canes of the summer's growth then keep clear of the fruiting canes, and as the fruit gets all the sun, it ripens better. At pruning-time, if the plants are strong and established, three canes are enough to be left on each stool, if fine fruit is desired.

Of the varieties, I find *Fastolf*, *Cutbush's Prince of Wales*, and *Carter's Prolific* to be the best bearers amongst the red kinds; and *Yellow Antwerp* amongst the yellows. The autumnal fruiting sorts grown here are the *Merveille des Quatre Saisons* and the *October Yellow*, both good bearers, in fine warm autumns.

The Raspberry is not subject to many insect enemies. One is a grub named *Tinea corticella*, which sometimes attacks the flowers and young fruit, but is so seldom seen as not to prove of any great injury to the crops.—

WILLIAM TILLERY, Welbeck.

FIG COL DI SIGNORA BIANCA.

[PLATE 473.]



UR plate of this, one of the most delicious Figs in cultivation, is derived from a sketch made some time since by Mr. Fitch. It is, as will be seen, a very handsome fruit, and being of such excellent quality, it is one which can be strongly recommended for general cultivation. We quote the following descriptive particulars from Hogg's *Fruit Manual* :—Fruit, medium-sized, pyriform, with a rather long neck; skin thick, green, but changing to yellowish-white, and covered with fine grey bloom; stalk short, stout; eye, closed. Flesh of the darkest blood-red, very thick and syrupy, and most delicious. It shrivels and dries well. One of the finest figs in cultivation.

VILLA GARDENING FOR AUGUST.

“O “August, hail! fruitful, serene, and calm,” writes one of our poets. The warm, dry weather of the second and third weeks in July has done much to make it a fruitful month. Wet and dullness have changed to sunshine and brilliancy, and

serenity and calm have taken the place of storms and winds. St. Swithin's has come and gone, without fulfilling its ancient traditions.

GREENHOUSE.—*Fuchsias* are now the glory of the greenhouse, supported by *Zonal Pelargoniums*, *Balsams*, *Minulus*, *Harrison's Musk*, *Plumbago capensis*, *Petunias*, and others. The bright sunshine brings out an abundance of bloom, and plants that are at all pot-bound dry rapidly. They want watering two or three times a day, while drying influences abound. A little stimulus may be given with advantage, such as Standen's manure, Amies' manure, or guano, but they must be carefully applied. It is a good plan to stir the soil, sprinkle a little of the manure over the surface, and gently water it in. This may be done twice a week, but only in the case of pot-bound plants. The subjects named above are kept nice and fresh by sprinkling them with the syringe two or three times a day, wetting the flowers as little as possible. As the blossoms decay, they should be removed, and *Fuchsias* and others should not be allowed to form their seed-pods. *Lilium auratum*, *L. speciosum*, and *L. eximium* are all of them fine subjects for a greenhouse, but they should be placed a little in the shade, to retain the beauty of the flowers as long as possible. The first and last are already in bloom, while *L. speciosum* and its varieties are rapidly coming on into flower. In syringing, the water must be kept from the flowers. A little shading will now be of great use in the Greenhouse; if there is no blind, a little whitewash should be laid on that portion of the outside roof most exposed to the sun.

So far we have touched on what are termed “soft-wooded” plants. Hard-wooded plants, such as *Epacris*, *Azaleas*, early-flowering *Heaths*, &c., are grown by many, and it is of great importance to well mature the wood of these, to ensure a fine bloom next spring. They should not have their shoots stopped after the commencement of the present month; the danger is that when stopped too late, it may be done at the sacrifice of flowers. Everything that can be done to ensure the proper ripening of the wood deserves attention. One good plan is to place the plants thinly in the greenhouse, and to keep the place well ventilated, both day and night. The plants should be well supplied with water, and exposed to the influence of the sun, without the slightest shade whatever.

FLOWER GARDEN.—A Flower Garden should be at its greatest perfection in August, and thus it is requisite pains should be taken to keep everything as fresh, neat, and tidy as possible. The flower-beds must be gone over frequently, as recommended last month, as not only do flowers fade and leaves decay, but weeds will be certain to grow up among the plants. In dry weather the soil, hardened by the late rains, will be certain to crack, and this is best reme-

died by loosening the surface of the beds. There is this further advantage, that when rain comes it will not run off, but be enabled to soak into the ground. Vases and ornamental baskets of flowers on lawns and by-walks are objects of great decorative beauty in a flower-garden, and they need close attention in the matter of watering, and keeping them clean and tidy. Little attentions go a long way towards making a flower garden bright and pleasant for a lengthened time. *Hollyhocks*, *Dahlias*, *Delphinums*, and other large-growing things will require plenty of water, and the two former will be greatly assisted by a mulching of dung and rotten leaves. *Carnations*, *Picotees*, and *Cloves* are now fine objects in the flower garden, and should be kept neatly tied up. *Clematises* are now getting well into bloom, and by keeping the shoots well tied out, the flowers are seen to the best advantage. Pick all dead *Roses* from the trees, give them a further mulching with manure, and syringe the trees occasionally. This will encourage them to grow, and give good heads of bloom in September.

KITCHEN GARDEN.—*Cabbages* for Spring use may be sown early this month, and *Cauliflowers* may be sown, making two attempts, one early in the month, the other about the end. The best variety of Cabbage for spring use is the Enfield Market; and the best Cauliflower the Walcheren—true. Those who are fond of large *Onions* in early summer, should make a sowing of the White Italian Tripoli and the Giant Rocca the last week in the month. *Prickly Spinach* for spring use should also be sown, choosing a warm border as the site of the Spinach bed. On plots of ground cleared by lifting *Potatos* and clearing-away *Peas* and *Beans*, sow Improved Snowball *Turnips*. Keep *Celery* well watered, and the garden as free from weeds as possible.

FRUIT GARDEN.—All wall trees should be neatly trained, taking out superfluous growth, and laying in such wood as may be required for next season. In the case of *Peach*, *Nectarine*, and *Plum* trees bearing fruits, wood-lice and earwigs, as well as snails, become troublesome, preying on the fruit, and disfiguring them. These pests need to be well looked after, giving them no quarter. Those who have a crop of *Morello Cherries* on walls, and may desire to preserve them, must net the trees over to keep the birds from them, and keep a look-out for snails also. The latter are very plentiful just now. We are sorry to have to note that *Apples* are falling very fast from the trees, as if from imperfect development; and the *Plum* crop is being thinned in the same way; it is a general complaint, not being confined to one district, and bodes a yet greater scarcity of fruit than we had feared. It is a matter for regret that the crop of both apples and plums is surely becoming smaller.—SUBURBANUS.

SEED GERMINATION.

ON a recent number of the *Weiner Obst-und Garten Zeitung*, Superintendent Oberdieck relates his experience in inducing growth in old seeds of the Pansy. It has often been observed, he says, that old seeds of the Pansy will not readily germinate, and it has, moreover, been found by experience that even two-year-old seed will not germinate when sown in the open ground if frequently watered. On the other hand, self-sown seeds, which have fallen on the surface of the ground, where shaded by the plants, generally produce a thick crop of seedlings. This led him to adopt the following course of treatment, with the best results:—He filled a box with soil, which was pressed down level and firm with the smooth bottom of a small flower-pot, and then watered so thoroughly that the moisture necessarily held out for a considerable time without any fresh application. Then he sowed the seeds on the surface, pressed them a little into the soil with the hand, and set the box down in the shade. The little germs were soon seen to be sprouting, and the rootlets quickly found their way into the soil, so that the experiment was successful.

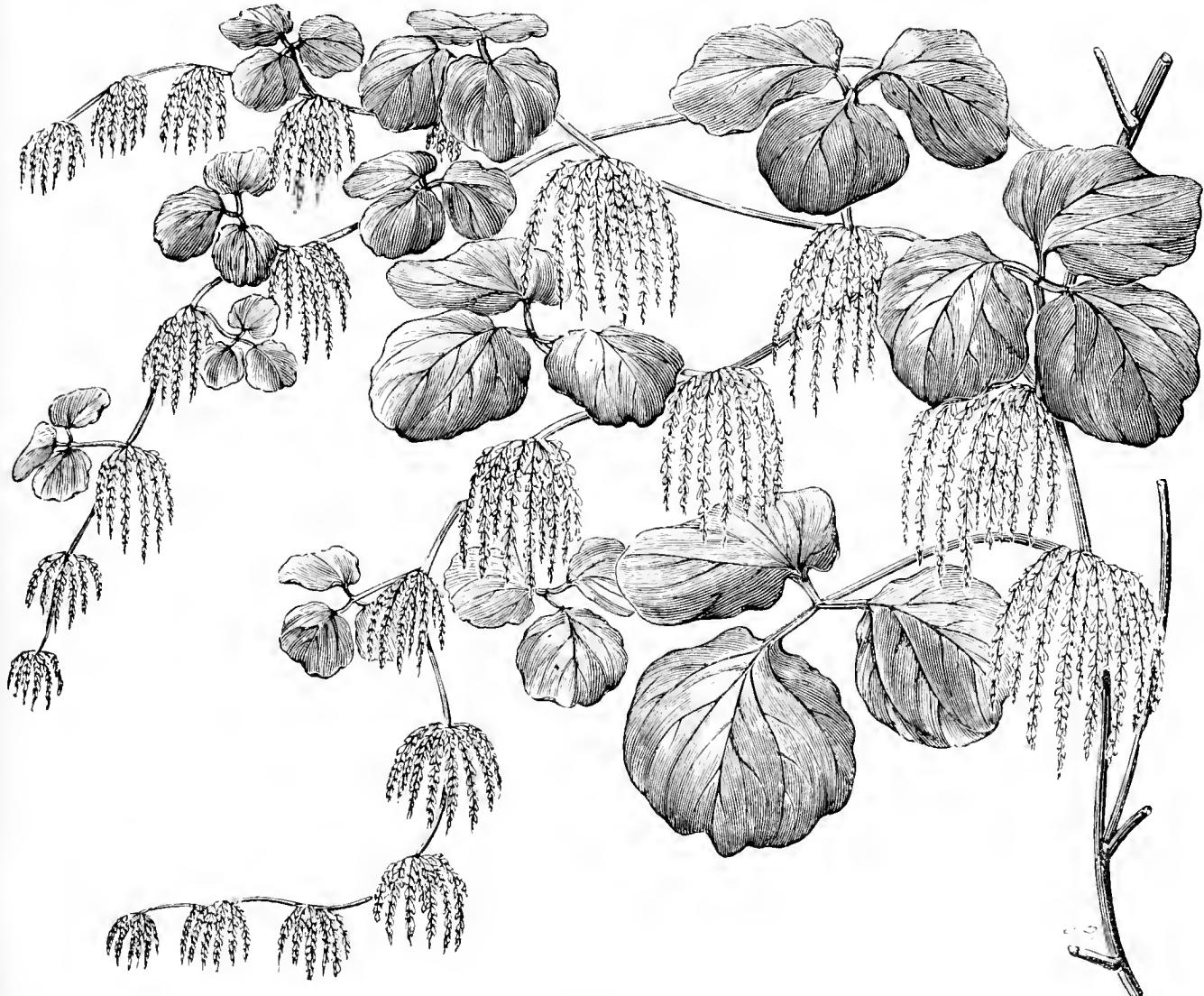
The result was even more satisfactory when subsequently sheets of glass were laid over the boxes, these being taken off when the seeds had germinated. A repetition of the experiment gave again quite satisfactory results. The seeds were covered with a little fine earth passed through a sieve, and they germinated well, as did also others four years old, which had been kept in small paper bags, and was picked before the capsule opened naturally, and scattered the seeds. Herr Oberdieck has kept Pansy seeds (also those of Auriculas), buried at the bottom of a flower-pot, between two thin layers of soil, over which were laid some pieces of wood, the pot being then filled up and buried two feet deep in the soil. When required for sowing they were taken up, the earth removed down to the wood, and then the rest of the soil with the seeds was sown in a box and covered by a sheet of glass. In this way old seeds (some stored a very long time) germinated freely; and as pansy seed is only obtainable in favourable years, it is well to know how one can safely preserve it in a state fit for germination.

Mr. Cannell, in his *Floral Guide*, advises in the sowing of seeds to ensure germination by covering them up and keeping them in total darkness until they begin to peep above the soil; then gently and gradually to expose them to the light. "When a frame, pot, or pan is covered completely, it ensures a uniform degree of moisture and temperature, consequently even seed possessing the merest life will be sure to grow."

DIOSCOREA RETUSA.

DVERY elegant climbing plant, from South Africa, described in the *Gardeners' Chronicle* in 1870, by Dr. Masters, but only recently put into commerce. We have to thank Messrs. Veitch and Sons, by whom it

conspicuous, creamy-white, agreeably fragrant, and grow in pendent axillary clustered racemes nearly two inches long. The female flowers are not known. Though nearly hardy, and probably capable of living during the winter, if



DIOSCOREA RETUSA.

has been sent out, for the illustration, which gives some slight idea of its graceful character. It has a very pretty effect when trained on an umbrella-shaped trellis, because the drooping clusters of greenish flowers then show themselves to the best advantage. It appears to have been brought first into notice by Colonel Trevor Clarke.

It is a very elegant climbing plant, with a tuberous root-stock, unarmed terete stems, and petiolate digitate leaves, composed of 5 to 7 leaflets, the upper ones less divided; the leaflets are stalked, oblong, with a retuse or abruptly acuminate apex. The flowers are small and in-

planted against a wall in a favourable position, it is better adapted for growing in a cool house.—T. MOORE.

NATIONAL CARNATION AND PICOTEE SOCIETY.

[SOUTHERN SHOW.]

THE Show of the Southern Section of the National Carnation and Picotee Society took place at South Kensington on July 23. Considering the trying weather of the preceding week and the forcing temperature experienced a few weeks ago, the show was remarkably good, a large number of

fine flowers being staged. The date was too late for the Southern flowers generally, Mr. Turner's especially, but Mr. Douglas managed to bring his blooms out fresh and bright-looking, and thus secured a high place on the prize list. Time does not permit us to comment on the numerous beautiful varieties which were staged. We leave this general survey in far more competent hands, and hope to publish it hereafter; in the meanwhile, we may state that the Society owes its deepest obligations to the energetic Hon. Secretary, Mr. E. S. Dodwell, whose ready help is at all times brought to bear on the best interests of the Society. The awards were as follow:—

24 CARNATIONS, 12 dissimilar.—1st, Mr. J. Douglas, gr. to F. Whitbourn, Esq., Loxford Hall, Ilford, with Eccentric Jack, c.b.; James Douglas, p.f.; Isaac Wilkinson, c.b.; James Taylor, p.p.b.; Admiral Curzon, s.b.; James Chichester, s.f.; Rose of Stapleford, r.f.; Squire Meynell, p.f.; Captain Stott, c.b.; Rev. G. Rudrick, c.b.; Sibyl, r.f.; True Briton, s.b.; Earl of Stamford, p.f.; Rifleman, c.b.; Sarah Payne, p.p.b.; John Keet, r.f.; Dreadnought, s.b.; John Bayley, s.f.; James Merryweather, r.f.; Lord Lewisham, c.b.; J. D. Hextall, c.b.; and the Clipper, s.f. 2nd, Mr. G. Rudd, Undercliff, Bradford. 3rd, Mr. E. S. Dodwell, Chatham Terrace, Larkhall Lane, S.W. 4th, Mr. J. Booth, Failsworth, near Manchester. 5th, Mr. C. Turner.

12 CARNATIONS, dissimilar.—1st, Mr. E. S. Dodwell, with Falconbridge, p.p.b.; Admiral Curzon, s.b.; John Keet, r.f.; James Chichester, s.f.; Maréchal Ney, c.b.; Graceless Tom, c.b.; three seedling scarlet bizarres, a seedling crimson bizarre, and a seedling rose flake. 2nd, Mr. J. Douglas. 3rd, Mr. S. Brown, Compton Road, Handsworth, Birmingham. 4th, Mr. S. C. Buttrum, Burgh Mills, Woodbridge. 5th, Mr. G. Rudd. 6th, Mr. B. Simonite, Rough Bank, Sheffield.

6 CARNATIONS, dissimilar.—1st, Mr. Medhurst, Priory Road, Wandsworth Road, with Falconbridge, p.p.b.; Mercury, s.b.; J. D. Hextall, c.b.; Lovely Ann, r.f.; Admiral Curzon, s.b.; and Florence Nightingale, p.f. 2nd, Mr. W. H. Dodwell, Sydeney Villa, Stockwell; and 3rd, Mr. T. F. Burnaby Atkins, Halstead Place, Sevenoaks.

CARNATIONS, single blooms.—*Scarlet Bizarres*: 1st, Mr. Douglas, with True Briton; 2nd, Mr. J. Booth, with Garibaldi; 3rd, Mr. J. Fletcher, with a seedling; 4th, Mr. S. Brown, with Admiral Curzon; 5th, Mr. Douglas, with Admiral Curzon.—*Crimson Bizarres*: 1st, Mr. Douglas, with Jenny Lind; 2nd, Mr. Douglas, with John Simonite; 3rd, Mr. Turner, with John Simonite; 4th, Mr. Douglas, with Captain Stott; 5th, Mr. Douglas, with Lord Milton.—*Pink Bizarres*: 1st, Mr. Douglas, with James Taylor; 2nd, Mr. S. C. Buttrum, with Sarah Payne; 3rd, Mr. J. Hines, Ipswich, with Eccentric Jack; 4th, Mr. Douglas, with James Taylor; 5th, Mr. S. C. Buttrum, with Eccentric Jack.—*Purple Flakes*: 1st, Mr. Douglas, with James Douglas; 2nd, Mr. G. Rudd, with Ajax; 3rd and 4th, Mr. Douglas, with Squire Meynell; 5th, Mr. Rudd, with Ajax.—*Scarlet Flakes*: 1st, Mr. S. C. Buttrum, with Annihilator; 2nd, 3rd, 4th, and 5th, Mr. Douglas, with Clipper, John Bayley, Sportsman, and Clipper.—*Rose Flakes*: 1st, Mr. Douglas, with Sibyl; 2nd, Mr. Douglas, with John

Keet; 3rd, Mr. Buttrum, with Mrs. Green; 4th, Mr. Douglas, with Rose of Stapleford; 5th, Mr. E. S. Dodwell, with Rose of Stapleford.

The *Premier Carnation*, selected from the whole exhibition, was John Bayley, s.f., shown by Mr. Douglas.

24 PICOTEES, 12 dissimilar.—1st, Mr. J. Douglas, with J. B. Bryant, h.r.; Mary, l.p.; Fanny Helen, h.r.o.; Mrs. Douglas, l.p.; Ethel, l.r.o.; Mrs. Niven, h.p.; Mrs. Bower, l.r.; Edith Dombrain, h.r.o.; Prima Dona, l.p.; Brunette, h.r.; Miss Wood, l.r.o.; Zerlina, h.p.; Obadiah, h.s.; Clara, l.r.; Miss Lee, h.r.o.; John Smith, h.r.; William Summers, h.r.; and Alliance, h.p. 2nd, Mr. C. Turner, with Princess Mary; Lady Beeston; Lothair, h.r.; Queen of Summer; Rev. F. D. Horner, h.p.; Brunette, h.r.; Zerlina, h.p.; Royal Visit, h.r.o.; Lady Salisbury; Lady Louisa, h.r.o.; Mrs. Wilson; Lily of the Valley, l.r.; J. B. Bryant, h.r.; Lady Carington, MED.R.O.; Alliance, h.p.; Mrs. Payne, MED.R.O.; Brilliant, h.s.; Thomas Jivens, l.r.; and Mrs. Langley. 3rd, Mr. E. S. Dodwell. 4th, Mr. J. Booth. 5th, Mr. H. Hooper, Bath.

12 PICOTEES, dissimilar.—1st, Mr. J. Douglas, with J. B. Bryant, h.r.; Miss Wood, h.r.o.; Mrs. Douglas, l.p.; Thomas William, l.r.; Mary, l.p.; Zerlina, h.p.; Edith Dombrain, h.r.o.; Brunette, h.r.; Fanny Helen, h.r.o.; John Smith, h.r.; Minnie, l.p.; and Mrs. Niven, h.p. 2nd, Mr. E. S. Dodwell. 3rd, Mr. R. Gorton, Eccles, Lancashire. 4th, Mr. G. Rudd. 5th, Mr. S. Brown. 6th, Mr. B. Simonite.

6 PICOTEES, dissimilar.—1st, Mr. Medhurst, with Robert Scott, h.r.; Beauty of Cheltenham, l.p.; Princess of Wales, h.r.; Cynthia, l.p.; Mary, l.p.; Zerlina, h.p.; and Miss Lee, h.r.o. 2nd, Mr. W. H. Dodwell. 3rd, Mr. T. F. Burnaby Atkins.

PICOTEES, single blooms.—*Red, heavy-edged*: 1st and 2nd, Mr. Douglas, with John Smith; 3rd, Mr. Douglas, with Princess of Wales; 4th, Mr. Turner, with Dr. Abercrombie; 5th, Mr. Douglas, with Princess of Wales.—*Red, light-edged*: 1st, Mr. G. Rudd, with Thomas William; 2nd, Mr. B. Simonite, with Violet Douglas; 3rd, Mr. E. S. Dodwell, with Thomas William; 4th, Mr. B. Simonite, with Violet Douglas; 5th, Mr. G. Rudd, with Thomas William.—*Purple, heavy-edged*: 1st, Mr. Turner, with Mrs. Albert Chancellor; 2nd, Mr. Turner, with Zerlina; 3rd, Mr. E. S. Dodwell, with Zerlina; 4th Mr. Douglas, with Mrs. Niven; 5th, Mr. Buttrum, with Lavinia.—*Purple, light-edged*: 1st, Mr. Douglas, with Mary; 2nd, Mr. E. S. Dodwell, with Mary; 3rd, Mr. Turner, with Alice; 4th, 5th, Mr. Douglas, with Mrs. Douglas and Mary.—*Rose or scarlet, heavy-edged*: 1st, Mr. Turner, with Mrs. Payne; 2nd, Mr. E. S. Dodwell, with Juliana; 3rd and 4th, Mr. G. Rudd, with Miss Horner and Juliana; 5th, Dr. Abercrombie, with Lady Louisa.—*Rose or scarlet, light-edged*: 1st, Mr. Turner, with Victoria; 2nd, Mr. Douglas, with Miss Wood; 3rd, Mr. G. Rudd, with Miss Wood; 4th, Mr. H. Hooper, with Lucy; 5th, Dr. Abercrombie, with Victoria.—*Yellow Grounds*: 1st, Mr. Turner, with Hon. Mary Lascelles; 2nd, Mr. Turner, with Prince of Orange; 3rd, Mr. Douglas, with Prince of Orange; 4th and 5th, Mr. Turner, with Alice Waite and Prince of Orange.

The *Premier Picotee* in the show was J. B. Bryant, heavy-edged red, shown by Mr. Douglas.

24 SELFS, FANCIES, OR YELLOW GROUNDS, 12 dissimilar:—1st, Mr. J. Douglas; 2nd, Mr. Turner; 3rd, Mr. H. Hooper; 4th, Mr. B. Simonite; 5th, Mr. E. S. Dodwell.—12 dissimilar blooms: 1st, Mr. Turner; 2nd, Mr. H. Cattley, Bath; 3rd, Mr. H. Hooper; 4th, Dr. Abercrombie.

12 PLANTS IN POTS, not exceeding 8 in. in diameter:—1st, Mr. Turner; 2nd, Mr. Douglas.

First-class Certificates were awarded to Mr.

Turner for Royal Visit (Abercrombie), a charming heavy-edged Rose; Mrs. Payne, fine medium-edged Rose; Ophir, a fine yellow self Picotee; Lord Beaconsfield, pale salmony buff, with red edges, a fine flower, with beautifully-shaped petals; Alice, yellow ground, edged and striped with red; Henry Tait, yellow ground, heavy red-edged and striped; and Eleanor, primrose-yellow, striped with red.

Altogether this was a most successful Exhibition, a large number of very beautiful flowers having been staged. Indeed, it surpassed the anticipations that had been formed of it, as the heat of the past few weeks brought out the flowers so rapidly, that in many cases the best blooms of the southern growers were past.

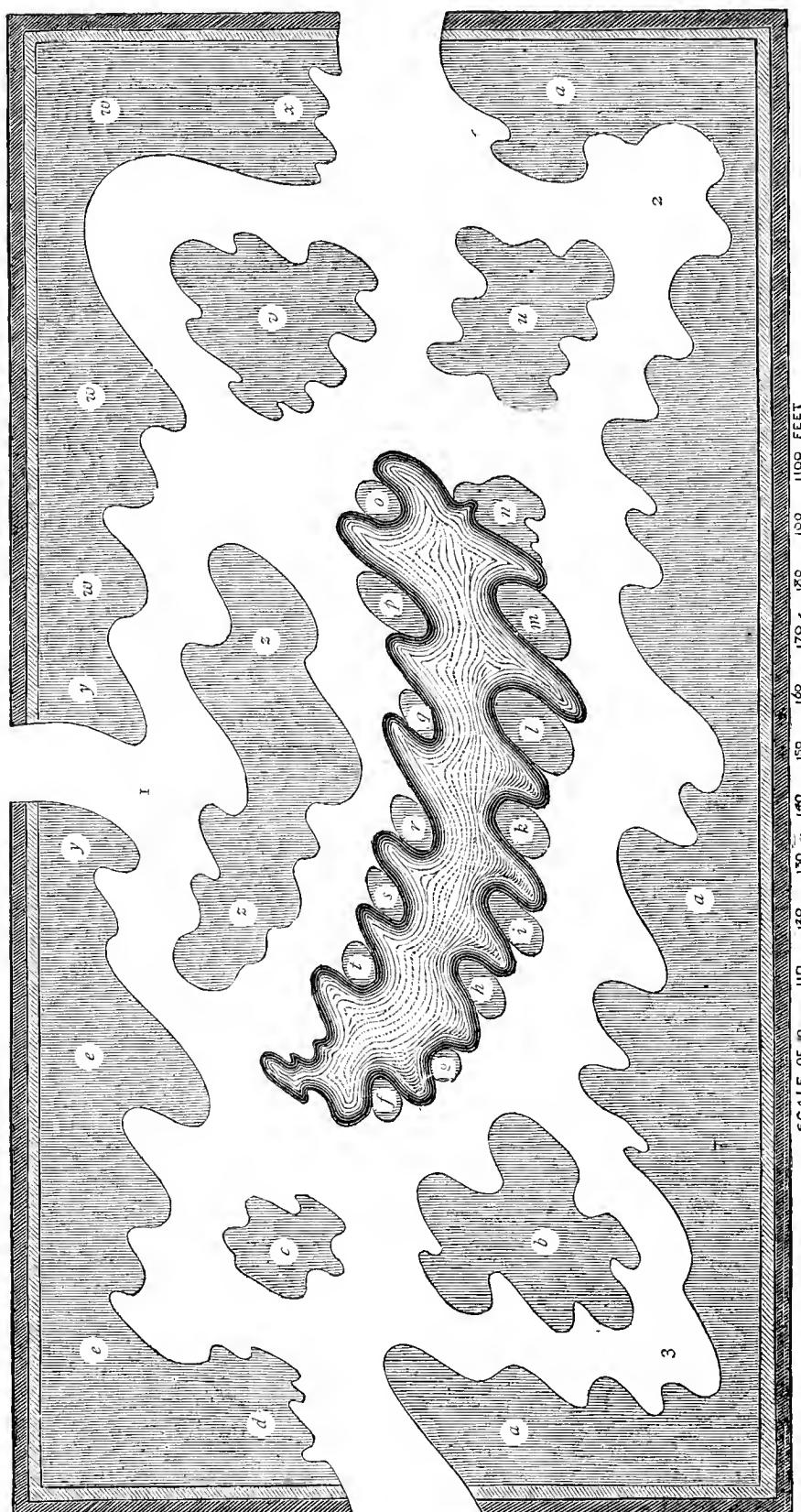
GARDEN GOSSIP.

THE ROSE-SHOWS of the METROPOLIS have been fairly good this year. That at South Kensington, on June 18, was limited, owing to unseasonable weather, but some good blooms were staged, especially from Messrs. Keynes and Co. H.P. Mons. E. Y. Teas and La France were shown well in all the large collections.—From the same cause, an indifferent show was anticipated at the Alexandra Palace on June 22, but this proved much better than was expected. Messrs. Paul and Son, Keynes and Co., and Cranston and Co. took the higher awards. H.P. Mrs. Laxton, figured by us some time since, came out well on this occasion.—The National Society's Rose Show at the Crystal Palace, June 29, brought a fairly good competition, and as a general rule the flowers were of fine quality, though the previous extremes of weather prevented some growers from showing in their usual style. Messrs. Cranston and Co. took the lead in the larger classes, Mr. Turner in that for 36 singles, and Mr. Cant in that for 24 trebles. The Amateurs showed well, especially Mr. R. N. G. Baker and Mr. J. Jowitt. Mr. Cant set up a splendid stand of blooms of La Boule d'Or; and for New Roses, 3 blooms, Messrs. W. Paul and Son were first, with H. P. Duchess of Bedford, a dark rich red, intensely clear and rich; and Messrs. Paul and Son, Cheshunt, second, with H. P. Earl of Beaconsfield, rose-colour, with shaded centre.—The National Rose Society's Show, at Manchester, July 6, was very successful, upwards of 10,000 persons visiting the show. Messrs. Cranston and Co. took the leading prizes among nurserymen, and Canon Hole and Mr. J. Jowitt among amateurs. First-Class Certificates were given to Messrs. W. Paul and Son for H. P. Countess of Rosebery, and to Messrs. Paul and Son, Cheshunt, for H. P. Mrs. Laxton, both fine new sorts.—At the Royal Botanic Society, on July 10, Messrs. Paul and Son showed extremely well, and took first prize for 72 singles, every bloom being perfect. First-class Certificates were given to Messrs. W. Paul and Son for H. P. Countess of Rosebery, a very perfect flower, with beautifully shaped petals, the colour a crimson rose, and the shape good; and to Mr. Turner, for H. P. Harrison Weir, a very large full and deep copped flower, of a brilliant crimson colour.

— THE meeting of the ROYAL HORTICULTURAL SOCIETY at South Kensington on July 2 brought out some good new English

Roses. First-class Certificates were given to Messrs. W. Paul and Son, for *Rose Duchess of Bedford*, a grand H.P., well built, with broad petals of good substance, the colour a bright reddish crimson; and to Mr. C. Turner, for *Rose Penelope Mayo* and *Dr. Sewell*, the first a large beautifully formed flower of the Marie Baumann type, and the second a fine flower, with broad smooth petals, the colour intense cardinal-crimson, heavily shaded with maroon. A similar award was made to M. V. Lemoine, Nancy, for *Pelargonium Elfrida*, an ivy-leaved sort, with large rosy-violet full double flowers; for *Pelargonium A. F. Barron*, another ivy-leaved, with full double pinkish-rose flowers; and for Lucy Lemoine, a third ivy-leaved variety, with beautiful double flesh-tinted pink flowers. Mr. Pearson, Chilwell, sent some seedlings of *Pelargonium echinatum*, with lovely rosy-tinted bright spotted flowers, which were Commended, but three of which, *Beauty*, *Ariel*, and *Pixie*, were awarded First-class Certificates at the Preston show, on the 10th. The Fruit Committee on this occasion had quite a display of Seedling Melons, and two varieties proved to be so good as to merit the award of First-class Certificates; they were *Netted Victory*, from Mr. Gilbert, Burghley, a thick white-fleshed, round, and fine-flavoured fruit, with the netting very strongly pronounced; and *Dell's Hybrid*, from Mr. Dell, Stoke Rochford, a round green-fleshed variety, moderately netted, of most excellent flavour, and a good hardy constitution.

— THE PROVINCIAL SHOW OF THE ROYAL HORTICULTURAL SOCIETY at Preston, opened on July 10, and continued four days. As an Exhibition it was a very fair success, thanks to the exertions of the Hon. Secretary, T. M. Shuttleworth, Esq. (whose absence through indisposition was universally regretted), the local committee and authorities, and Mr. A. F. Barron, on whom, indeed, the carrying-on of the details chiefly fell. Nor must we omit to add a word of just praise to Mr. J. F. Johnson, of Belfast, for the felicitous manner in which he laid out the principal show-tent (see plan, p. 126), which elicited the most complimentary notice from the noble President of the Royal Horticultural Society; and to Mr. S. Jenniug, the assistant-secretary, who was actively employed during his stay in helping to make the arrangements go smoothly. The show was held about two miles out of Preston, in a large field belonging to and adjoining the nursery grounds of the Preston Pleasure and Nursery Gardens Company. The principal portion of the show was in the large tent shown in the annexed plan, which was divided into three span-roofed aisles. The plants were disposed on turf banks, of irregular outline, with a gently sloped surface, on which the pots rested at the proper inclination, without unsightly tilting. The effect from the elevated points 1, 2, 3 was exceedingly good, as was that of the little bauks jutting into the bays formed by the irregular water-margin. The finest plants in the show were those sent by the Hon. Secretary, which were numerous, and consisted of all the choicest subjects showing the most perfect cultivation. The *Gleichenias* in this group were marvels of merit, and a *Lapageria alba*, *Dipladenia Brearleyana*, *Allamanda nobilis*, and *Statice profusa* may be singled out as superexcellent amongst the flowering plants. M. Tudgey's, Mr. Pilgrim's, and Messrs. Cole's Stove and Greenhouse plants; Mr. Osman's, Mr. Hammond's, and Mr. Pilgrim's Foliage plants; Mr. B. S. Williams' and Mr. Osman's Orchids, Mr. Bull's New plants, Mr. Laing's Tuberous Begonias,



PICTURE SHOWING THE ARRANGEMENT OF THE PRINCIPAL TENT IN THE ROYAL HORTICULTURAL SOCIETY'S SHOW AT PRESTON (FROM THE *GARDENERS' CHRONICLE*).

1, 2, 3 elevated points whence a general view was obtainable. *a*, *a*, *a*, miscellaneous stove and greenhouse plants, with Pelargoniums on some of the projecting points. *b*, new Plants, with Tree Ferns and Pelargoniums. *c*, new Plants and Succulents. *d*, miscellaneous Plants, followed at *e*, by Stove and Greenhouse Ferns. *f* to *t*, flat green banks, protecting into the water-line, and very effectively filled with special groups; *f*, Dracaenæ; *g*, Adiantums; *h*, Begonias; *i*, Dracænas and Orchids; *j*, Caladiums; *k*, Adiantums; *l*, Dracænas; *m*, Dracænas; *n*, Dracænas; *o*, Orchids; *p*, Dracænas; *q*, Dracænas; *r*, Adiantums; *s*, Dracænas; *t*, Adiantums. *u*, Messrs. Veitch's novelties, and groups shown from Mr. Bull's cups. *v*, Mr. Williams and Mr. Messrs. Rollinson's new Plants. *w*, Mr. Shuttleworth's grand collection. *x*, Crotons. *y*, *y*, Plants staged for effect. *z*, Palms and Pelargoniums at one end, and groups shown from Mr. Bull's cups at the other end, with block of rockwork in the centre projecting over the pathway, and terminating in a waterfall, dropping into the irregular pool of water which occupied the centre, and along which were distributed a dozen tree ferns. The vistas and varying effects produced were very picturesque, and elicited from the President, Lord Aberdare, the high compliment that, though he had seen shows of great beauty both in this country and on the Continent, he had seen none to compare with this, which completely fulfilled his idea of what a show ought to be.

Mr. Pilgrim's Tender and Mr. Bolton's Hardy Ferns, Mr. Barron's Conifers, Messrs. Cranston's Roses, Mr. Coleman's and Mr. Bannerman's Collections of Fruit, and Mr. Miles' Collection of Vegetables were, amongst many others, exhibits of a highly meritorious character; and Messrs. Veitch, Williams, and Rollisson each showed an interesting group of their choicest plants, novel and otherwise. The several competitions for Messrs. Veitch's Fruit

Prizes, Mr. Bull's New Plant Cups, and Messrs. Carter's and Messrs. Sutton's Vegetable Prizes were interesting features of the show; and the Implement Yard was well worthy of inspection. Though not expected to be a financial success, the show was so good, and showed so great an amount of confidence in the society, that, we trust, the attempt to revive provincial shows may not in consequence be stayed, but may be again put to the test, under

more favourable conditions and with happier results. The Preston Committee worked well, but somehow seem to have failed at the opening to excite the enthusiasm of the townspeople, upon whom, no doubt, the commercial inactivity, the recent strikes, and the riots had acted depressingly, and over whom the dripping clouds also had cast a damper.

— THE Thirty-fifth Anniversary Festival of the GARDENERS' ROYAL BENEVOLENT INSTITUTION took place on July 3, at the "Albion," Aldersgate Street, under the presidency of Robert Marnock, Esq. This gentleman has been so long known and so highly esteemed amongst horticulturists, that a large attendance was looked for, and this expectation was realised, the hall being well filled, and the subscription list reaching to over 600 guineas, the largest amount, with one exception, obtained at any of the festivals held in support of this well-deserving charity.

— THE show of the RICHMOND HORTICULTURAL SOCIETY on June 27 was favoured by brilliant weather and active royal patronage, so that success was almost assured. There was one immense tent for the chief floral classes, one for special prizes, one for table decorations and cut-flowers, one for fruit and vegetables, and a fifth for cuttings. Messrs. Veitch's and Williams' groups were very effective. Mr. Kinghorn won first place in the competition for effective arrangement. Mr. James took the lead in the Pelargonium classes, with bright, fresh-looking plants. A large competition in table decorations lay chiefly between ladies of the locality; cut roses were shown largely and well; and of fruit there was a good display. The entire show was a marked success, thanks to the energetic labours of the active Hon. Secretary, Mr. A. Chancellor.

— THE NATIONAL CARNATION AND PICOTEE SOCIETY (Northern) is to hold its Exhibition on August 3, 5, and 6, in conjunction with the great Cottagers' Flower Show in the Botanical Gardens, Manchester. Schedules may be had on application to the Hon. Secretary and Treasurer, Rev. F. D. Horner, Kirkby Malzeard. Certain of the classes are open to all, others to growers of 400 pans or less, and others, again, to growers of 180 pans or less. Any flower, or stand containing a mutilated flower—i.e., one with a false pod, petals clipped smooth, or calyx clipped, will be disqualified; as also will flowers having self petals, or bizarre petals in flakes, or inserted petals. The flowers are to be shown on cards, and their names to be plainly written, and easy for reference to the blooms.

— OF SEEDLING CARNATIONS and PINKS, Mr. Dodwell reports as follows:—CARNATIONS: *H. M. Hewitt, Chesterfield.* Crimson bizarre, first-rate in every respect—marking, colour, quality, form of petal, texture, and smoothness. A most desirable variety, something between J. D. Hextall and Captain Stott, but quite dissimilar. What is it to be called? *Charles Buckland, Chesterfield.* Neither of the flowers sent has any pretension to first-class excellence; the Rose-flake is far behind the best of the present day. *No name or advice, postmark Wakefield.* 6 blooms—4 scarlet flakes, Nos. 16, 29, 39, 40, 1 crimson bizarre, No. 2, 1 purple flake, No. 45. Had been packed with dry cotton wool, and consequently were too much collapsed to admit of a critical opinion on their merits. Judging

from the remains, all are worth further trial, though neither indicated any advance upon the best existing varieties. PINK: *Saml. Brown, Handsworth, Birmingham.* 1, light purple, bright, well laced, largo and full; 6, dark purple, would take high rank, save that the petal is inclined to curl; 15, heavily laced purple, the marginal colour paler than the eye, but good; red-laced, unnamed, and unnumbered, very broad in the lacing, but wants substance and smoothness. The three numbered varieties are the best. Each deserves cultivation, though no advance upon the best already distributed.

— A RESIDENT on the west coast of Ayr recommends as SHRUBS FOR SEA-SHORE PLANTING Blackthorn and Austrian pine, to go close to the sea; next in order, common Hollies, then evergreen Oak, Arbutus, Sweet Bay, and the finer evergreens, pines, &c., all of which will live and thrive, notwithstanding the salt in the air, if they have only protection from the wind. The Evergreen Oak grows into a splendid tree. The Arancaria, Sequoia, Taxus, and Cypress tribe will not form specimens without shelter from the wind, although twenty degrees of cold do them no harm whatever.

— THE NEW ZEALAND FLAX has recently been recommended as constituting one of the best materials for tying plants. It is superior to bast or Raffia grass, and being green, is not unsightly. The leaves should be cut as they are wanted for use; they split freely, as fine as thread, and almost as strong. It is a matter of great convenience to have a plant growing in the herbaceous border from which a few leaves have only to be cut, to supply oneself with a good tying material which costs nothing.

— THE HABLITZIA TAMNOIDES is scarce in cultivation, but its merits as a hardy climbing perennial should secure it a place in every garden whose proprietor loves plants. In Mr. Wilson's garden, at Weybridge, where we have often admired it, its profuse foamy masses of greenish flowers, like those of the Black Bryony, especially attract attention, as do the leaves, on account of their very long taper points and crimped edges. The individual flowers, though small and inconspicuous, are very elegant in the mass. The plant has tuberous roots, and as it is a native of the Caucasus, it should be quite hardy.

— M. DECAISNE has come to the conclusion that the shrub usually called SYRINGA PERSICA is rather *S. chinensis*, and that the epithet Persian Lilac should be abandoned in favour of Chinese Lilac. The true Syringa persica has, it seems, become very rare in cultivation. In spite of the appellations, the native country of the two species is still unknown, wild specimens not being found in herbaria. The species in question are, up to this time, only known in a cultivated state. How odd, remarks the *Gardeners' Chronicle*, this ignorance concerning the habitat of many cultivated plants! It is only the other day that the Horse Chestnut was found wild; and even now no one has seen the Mignonette in a wild state.

— THE MADRESFIELD COURT GRAPE has been charged with the fault that its berries are apt to crack or burst when nearly mature; and no doubt that has been often the case, possibly from various causes, but chiefly from too copious a flow

of fluid into them. A writer who signs himself "Scotia" finds it a remedy or preventive to drop more heavily than in the case of most other sorts, which may generally be done, as there is rarely any scarcity of incipient bunches, and to give no water after the berries show the least tinge of colour, indicative of ripening. Mr. Ward, of Longford Castle, has adopted the following plan with good results:—Just before the berries begin to colour, the shoot was cut "nearly half through," between the branch and the joint preceding it, the superabundant sap, which, he says, is without doubt the cause of cracking, being carried off by means of this cut. Mr. Ward also recommends heavy cropping.

— **T**HE new *TODEA PLUMOSA* is a very pretty seedling sport of *Todea*, which has been raised in the nursery of Messrs. Veitch and Sons, of Chelsea, where a considerable number of plants of identical character, but differing from the supposed parent, have been obtained from a sowing of *Todea superba*. Possibly they are accidental hybrids, brought into existence by the usual intermixture of spores of some other *Todea* with those which were ostensibly sown. It is of dwarf compact-growing habit, and of a pale-green colour. The surface of the fronds is moderately bristling with the small, erect segments, as in *T. intermedia*, but the fronds are shorter and more ovate than in that plant, while the woolly rachis and stipes are also wanting. The fronds are recurved and the pinnae are recurved, while the ultimate segments are erect or turned up. It is a pretty dwarf-growing addition to these pleasing cool-house Ferns, and from its small stature will be an admirable subject for growing in a Ward's case.

— **W**E were agreeably impressed last spring with the completeness of the arrangements made for **STORING TUBERS OF GLOXINIAS AND OTHER GESNERACEOUS PLANTS** in the great horticultural establishment of M. Louis Van Houtte, of Ghent. A long room, provided with several tiers of stages, was completely filled with tubers of all sorts and sizes in the most perfect preservation, and in numbers so astounding that we forbear to quote how many are in this way stored annually. With us too often the returning spring finds the tubers either rotted, or parched up, or—etherealised, gone! This often results from keeping them in too high a temperature—from 70° to 80°, which is much too hot. The secret of M. Van Houtte's success in their preservation is, that they are not subjected to extremes of any kind; they are dug up and turned out with their roots and leaves attached, and such of the soil as will hang about them, and they are allowed to dry very slowly, surrounded by these *impedimenta*. During winter the bulb-store is kept at about 50° F. The result is that the roots turn out plump and fresh, when required for planting.

— **T**HE *SOUVENIR DE MALMAISON CARNATION* deserves a place in every garden where cut flowers or choice decorative plants are in request. The blooms are extremely large, and of a very delicate flesh-colour. Young plants are preferable for pot-culture; those struck in May from soft side-growths, in a brisk bottom-heat, flower within twelve months. They should be potted off into 3-in. pots, in a compost of fibry turf and dry cow manure, and as soon as they are well rooted

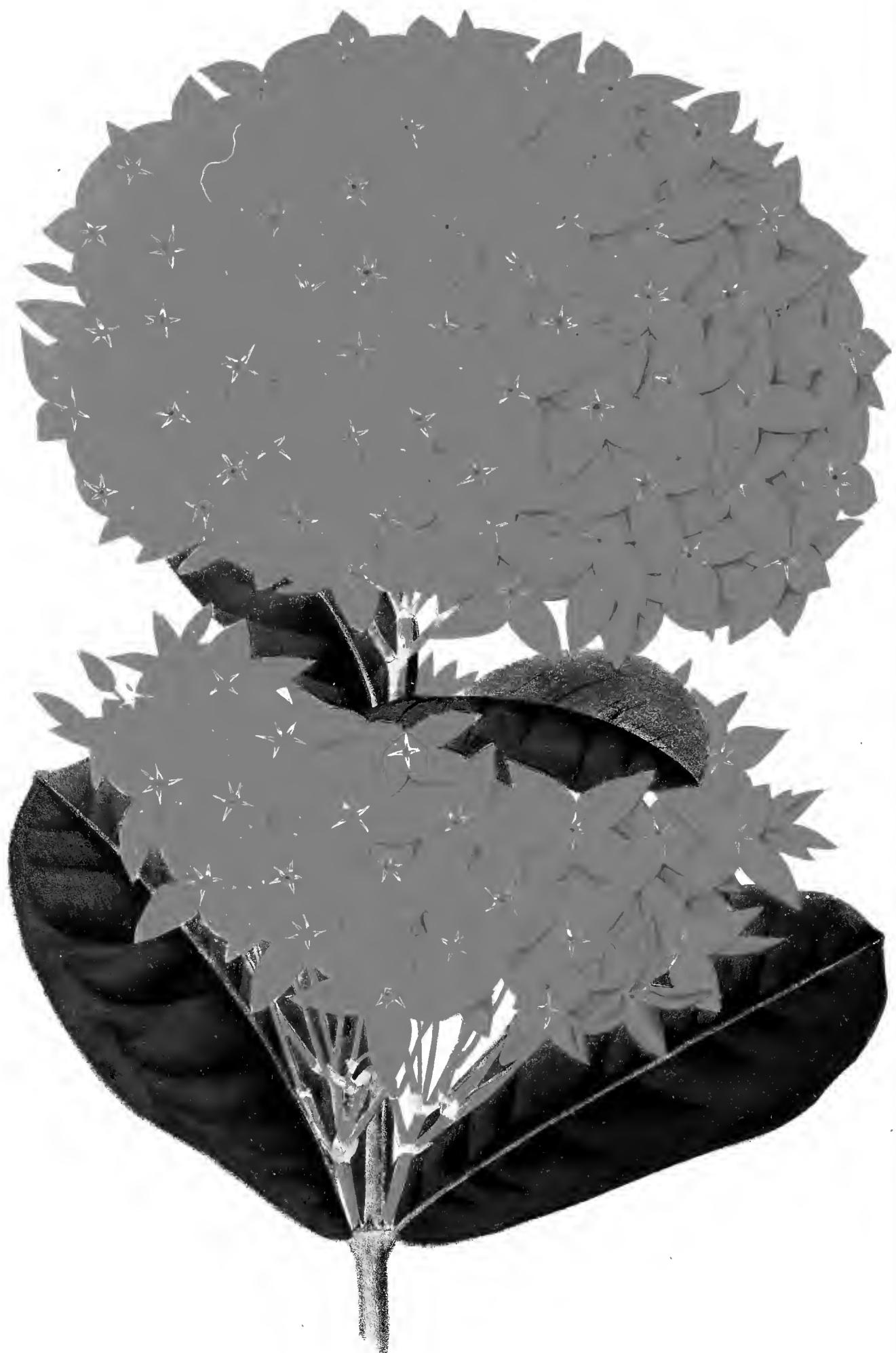
transferred to cold frames, in which they are set on coal ashes, the lights being drawn off entirely on all favourable occasions. In August they should be shifted into 5-in. and 6-in. pots, great care being exercised in watering, as if at all soddened, or the drainage imperfect, the plants are liable to die off. Green-fly must be guarded against by fumigation or the use of tobacco-water. During winter they should be kept in a light, well-ventilated house, with intermediate temperature. Such plants, if successfully handled throughout, develop splendid heads of bloom.

— **T**HE varieties of *CALOCHORTUS*, which, as well as those of *Cyclobothra elegans*, are very numerous, are reproduced almost entirely from seed, in the wild state. These plants, Mr. Elwes notes, though able to resist a greater degree of cold than they are likely to get in England, require the protection of a frame to bring them to perfection, as the leaves are produced in winter or very early spring, and if exposed to the weather get much injured. They grow more robustly and more freely if planted out than in pots, and unless the soil is very warm and dry, are best taken up about the end of July, and kept dry till October before replanting. They seem to make few or no offsets, but in the axils of the branches small bulbs are often formed, and if the weather is hot, seed is produced in abundance. A more beautiful class of plants, he adds, I do not know, and though the individual flowers do not last long, a great succession is kept up on one plant, and by having a good number of species the bloom is protracted from May till August.

— **T**HE *Journal of Horticulture* records that *ERICA CANDIDISSIMA* is of great value as a decorative plant when flowered in a small state. This free-growing and floriferous Heath is highly worthy of being grown in quantity where chaste white flowers lasting long in beauty are in demand, plants grown in five-inch pots producing four to eight spikes densely laden with white waxy flowers.

Obituary.

— **M**R. WILLIAM HOLMES, of the Frampton Park Nursery, Hackney, died on June 29, aged 57. He was born at West Ham, on September 26, 1820, and was a florist by instinct, having had from his youth a real enthusiasm for florists' flowers, the Dahlia being one of his first pets. In 1848, he became gardener to Dr. Frampton, at Hackney, and was soon known as a successful grower and exhibitor of Dahlias, Chrysanthemums, Pansies, Gloxinias, Pelargoniums, &c. When Dr. Frampton's establishment was broken up, Mr. Holmes commenced business as a florist, designating his establishment "The Frampton Park Nursery." He was one of the earlier promoters of the National Floricultural Society, established in March, 1851, and was a constant censor at its meetings; while, in conjunction with Mr. R. James, he originated the Stoke Newington Chrysanthemum Society. He was formerly a frequent contributor to the garden periodicals, but latterly became mixed up with parochial affairs, having been vice-chairman of the Hackney Board of Guardians and churchwarden of St. Luke's Church, in which capacities and by his personal friends he was alike esteemed, for his manly and straightforward business-like character and genial manner.



Ixora sp. sp.

P. De Cammenaeker Chromolith. (Gand) Belgique

IXORA SPLENDENS.

[PLATE 474.]

HIS variety was raised by Messrs. E. Cole and Sons, at the Withington Nurseries, near Manchester. It was, we are informed, obtained by a succession of crosses, extending over a period of eight or ten years, *Ixora aurantiaca*, *I. salicifolia*, and *I. rosea*, a species now seldom seen, being in the first instance used as parents. These crosses brought varieties of various forms, the most conspicuous characters being in the shape and size of the foliage, with nothing to recommend them in regard to the form or colour of the flowers, some being pale orange and others dull red. The most remarkable seedlings of this batch, as regards the shape of their foliage, were selected for further crossing, *I. salicifolia* being in all cases used as the parent, and after many unsuccessful attempts, IXORA SPLENDENS, now figured, is the result.

We have no hesitation in pronouncing this to be one of the very finest *Ixoras* yet raised, and one which is remarkably distinct, both in foliage and flowers. The leaves, as will be seen, are peculiar, in their obovate-oblong figure being bluntly rounded at the apiculate apex. The flowers are individually large in size, collected into magnificent heads, and of the most brilliant carmine-scarlet, altogether unapproachable by any artificial colours, but the general effect of which Mr. Macfarlane and M. De Pannemaeker have respectively done their best to reproduce, and with very commendable success, in the accompanying plate.

The Withington Nurseries have always been famous for the cultivation of stove and greenhouse flowering plants, and the reports of the leading exhibitions show that this position is still maintained. As regards *Ixoras*, the Messrs. Cole have contributed the following notes upon the way in which they cultivate these most attractive plants. They remark:—“Regular and strict attention to the temper-

ature of the house is one very important matter, which should at no time be overlooked or underrated. The temperature should never be allowed to fall below 55°. Then the house should be kept moderately dry. If a full command of heat can be obtained, the moisture may be increased; and during the summer months, a good syringing overhead night and morning may be permitted in fine weather. During the cold and dull days of winter, moisture must be used very sparingly, or the plants will soon be attacked by spot, which gives them a very unhealthy and unsightly appearance.

“With regard to soil, we use simply peat and sand, being careful to select good hard fibrous peat. It does not follow that they will not grow in other mixtures, as we have seen very fine plants of *Ixora coccinea*, in splendid health, with from thirty to forty fine heads of bloom, grown in a compost of peat, loam, and sand. Great care should be taken to use water of a temperature as near that of the house as possible, or the consequence will be that the plants will be thrown into a very unhealthy condition. Many of those who visit our establishment are surprised at the quantity of growth and the freshness of our *Ixoras*, which look as free and robust as willows, sometimes making as much as three or four feet of growth in one season; and they seem scarcely to believe us when we show them the tank of clear water, and tell them we use no artificial means in the shape of manure. We firmly believe that the great secret of success lies in keeping the plants clean, and in paying strict attention to the temperature, which ranges from 55° to 65°. The following selection represents a few of what we consider the most useful kinds:—*Ixora coccinea*, *I. amboinica*, *I. Colei*, *I. Prince of Orange*, *I. amabilis*, *I. Williamsii*, and *I. Fraseri*

GLEANINGS FROM DU BREUIL.

ORD BACON has said, “He that inquires much will learn much.” It is equally true that he who readeth much will learn much. I am most thankful to M. Du Breuil for his noble work on “Pruning and Training Fruit Trees.” It would be impertinent

in me even to praise it. There is a great deal in his book beyond my experience. I will, therefore, only advert to those recommendations which I have experienced to be true. “On the general principles of training,” he observes that the wood of trees ought to be symmetrical, as it

prevents sap being drawn to one side more than to another.

1. The permanency of form in trained trees is dependent on the equal diffusion of sap.

2. Prune the strong branches short, but allow the weaker ones to grow long.

3. Depress the strong parts of the tree, and elevate the weak branches.

4. Suppress the useless buds—on the strong parts as soon as possible, and as late as possible on the weak parts.

5. Nail up the strong parts very early and very close to the wall.

6. Delay nailing the weak parts as long as possible.

7. Suppress a number of the leaves on the strong side, and leave them on the weak side.

8. Allow as large a quantity of fruit as possible on the strong side, and suppress all upon the weak side.

9. Bring forward the weak side from the wall, and keep the strong side close to it.

10. The sap develops the branches much more vigorously upon a branch cut short than upon one left long.

11. The more the sap is retarded in its circulation, the less wood and the more fruit-buds will it develop.

12. To retard excessive growth, either during autumn root-prune or remove the trees, or at the spring expose the roots to the sun and keep manure and water from them; retarding the excessive vigour of the tree, leads to its fruit-bearing.

13. Keep the fruits as far as you can vertical, and their stems lowermost.

14. Let the leaves lap over the fruit till nearly ripe, when the light as well as heat must be allowed to bear on the fruit.

There is much more in this noble work beyond my limited experience. That which I have selected above I have practised, and know to be sound advice, having paid special attention to Peaches and Nectarines for twenty-seven years. Once more let me thank Mr. Du Breuil, and also the editor of the FLORIST, for the noble figures of the Peaches and Nectarines sent by me for illustration,—“*Longe floreat Florista!*” “*Longe floreat Fitch!*”—
W. F. RADCLYFFE, *Okeford Fitzpaine.*

ON THE MANAGEMENT OF SHY-SETTING GRAPES.

ON the cultivation of plants or fruits, the plodding enthusiast devotes his attention to what are termed “difficult subjects,” and prides himself on his success in moulding them to his will. For some years I have been engaged in the cultivation of the different kinds of fruit usually found in an English garden. In this department it is quite unnecessary for me to say that Grapes of various kinds always occupy the first place in the front rank, and judging from the magnificent examples of cultivation we frequently see at exhibitions, as well as in private gardens, the horticulturist's sheet-anchor is well worthy of that place.

As a cultivator and observer, I have always been curious to ascertain the causes and conditions which have led to extraordinary success, and I have also paid some attention to the causes of failure in the management of difficult subjects. Many of our finest sorts of Grapes, both black and white, being shy-setters, we do not, as a rule, see them so well grown as they ought to be. Either the bunches are thin and straggling, with here and there a properly-fertilised berry, or, as is often the case with that grand old grape, *Black Morocco*, better known as *Kempsey Alicante*, we see fine, vigorous vines a complete failure through imperfect fertilisation. A short time ago I walked through an extensive range of span-roofed vine ries. The vines, on the extension principle, were growing with a luxurious, fruitful-looking kind

of vigour, by no means objectionable to the man who knows how to handle the reins; but what was the state of affairs? *Hamburgs*, *Lady Downes*, and *Muscats* had set badly, and a splendid *Kempsey Alicante*, capable of carrying a quarter of a ton of grapes, was running rampant for the want of something to do. I was told it carried a heavy crop last year, and required rest. We often hear of the slip between the cup and the lip. To me, the most annoying slip would be the loss of the crop, after having succeeded in bringing finely-formed bunches up to the flowering period.

If we turn to a good weekly calendar, we find instructions to keep the house dry, warm, and well ventilated, while the vines are in flower. Many people follow this advice, and fail; so to make sure of our point, we will go back to the beginning, *i.e.*, the border. On all soils for vines on the single rod, the bottom should be concreted, and well drained with clean broken bricks or stones. The border should be made piecemeal, and underdone rather than overdone with soil, an abundance of live active roots within a limited space being more easily excited when the grapes are coming into flower, and being capable of taking a great deal more tepid liquid when swelling-off the fruit, than if spread over a larger area. In all cases where practicable, I give my vines the benefit of inside borders, if only three feet wide, as I can then lift and relay the external or internal

roots alternately, for the purpose of keeping up lively root action, without losing a crop.

Assuming that we are about to start, in January, a house that has been well planted with *Muscats* and *Alicantes*, with room for extending the inside and outside borders as the roots advance, instead of filling up the border with a mass of compost, I should prefer circumscribing the roots by means of turf walls, some feet within the space set aside for the border. The trench thus formed I should fill with fermenting oak-leaves, as soon as the vines had broken. In the course of three weeks these leaves would be cast on the top of the border, covered with shutters, and the trench having been refilled, root-action would be secured for the season. Meantime, the inside trench would be filled with a mixture of horse-dung and leaves, and the surface of the border, slightly mulched, would receive moderate supplies of water, at a temperature of 90° to 95°. Under this treatment, growth being free and quick, fine shows might be expected at from two to four buds on every shoot.

So far the vines have not been distressed, the warmth applied to the roots having assisted them before the stored-up sap became exhausted. The great point now to be considered is a good set. To ensure this, we usually see every bunch left to exhaust the vines by the flowering process, at a time when they require all the assistance that can be given; the result is a number of imperfectly fertilised bunches, from which, with a great deal of trouble and anxiety, twenty-five per cent. of the best are saved for the crop, and the others are cut off and thrown away as useless. After a narrow escape of this kind, the selected bunches will contain many stoneless berries, which obstinately refuse to fill up the space they ought to fill. The result is ragged bunches, through which a rifle ball might be fired without touching them; and light cropping being almost as fatal as heavy cropping, the vines lose their balance, the wood becomes gross, ripens badly, and the second year is worse than the first. Now, had the seventy-five per cent. of bunches removed been cut off before they approached the flowering period, those left would have set like *Hamburgs*, probably without artificial fertilisation, certainly with the aid of the camel-hair pencil passed over every flower once a day. *Muscats* contain plenty of pollen, and some grape-growers

draw the hand down the bunches; but it is not a good practice, as many of the outside berries show a small brown spot at the apex when ripe, caused no doubt by pressure or perspiration. *Kempsey Alicante*, even after the surplus bunches have been removed, requires a little more care than the *Muscat*, and well this noble grape repays all that can be done for it.

Having often noticed that Grapes invariably set well when the points of the bunches are drawn up by accident or otherwise to the glass, I pay great attention to the position of these when in flower, the more so as the *Alicante* often produces a moist, adhesive kind of matter, which prevents natural fertilisation; but by the daily use of the pencil, well furnished with Hamburg or *Muscat* pollen, which is carried on a sheet of paper, this matter soon gives way, and the *Alicante* then sets as freely as any other Grape. Artificial fertilisation to some may appear a very tedious process, but having cleared the vines of the bulk of the surplus bunches, the operation is quickly performed; indeed, half an hour each day while the Grapes are in flower will ensure a large house of well-set Grapes.

Of the varieties in general cultivation that require artificial impregnation, I may name the *Muscats*, some of the *Sweetwaters*, *Mrs. Pine's Muscat*, *Black Morocco*, *Venn's Seedling*, and *Muscat Hamburg*. The *Frontignans*, *Lady Downe's*, and the *Hamburg*, on imperfectly ripened wood of the past year, will also repay the care bestowed upon them.

From the foregoing remarks, your readers will gather that many years' practical experience has taught me that moderate-sized borders, well filled with active roots, bottom-heat in proportion to that of the house in which the vines are growing, combined with the early removal of surplus bunches, and the artificial impregnation of those intended for the crop, will lead to success in the most difficult subjects; while treatment the reverse of this is attended with but partial success, or failure. I have not made any allusion to the ripening of the vines, as amateurs, to whom these remarks are addressed, know that good Grapes cannot be obtained from imperfectly-matured wood.—W. COLEMAN, *Eastnor*.

CLUBBING IN CABBAGES, ETC.

OME three or four years ago, M. Woronin read before the Natural History Society of St. Petersburg a profusely-illustrated memoir on the formidable disease called "Clubbing," which occurs amongst the *Brassicaceae*, or Cabbage tribe. The memoir owes its origin to the fact that a year or two previous to its appearance the disease was very prevalent around St. Petersburg, causing the failure of the veget-

able crops, and that in consequence an inquiry into its cause was instituted by order of the Government. In Russia the disease is known as *Kapustnaja kila* (*Kapusta* = cabbage, *kila* = hernia). M. Woronin was not long in discovering that the cause of the disease was a parasitic fungus, named by him *Plasmidiophora brassicæ*, since the disease consists in an alteration of the plasmatic contents of the cells. As the result of repeated observations, carried on through 1875, 1876, and 1877, the life-history of this new parasite has been, in great measure, traced out.

One most striking feature in the new plant, as already hinted, is indicated by its generic name, *Plasmidiophora*. On examining the tissue of an old, well-developed knob off a club-root, most of the parenchymatous cells will be found enlarged, their starchy contents gone, and they themselves gorged with a mass of spore-like bodies. By the ordinary disintegration of the cellular tissue, these spores will get released, and after a lapse of six days, out of each spore will proceed the whole of its contents, which, colourless, but nucleated, will move about like so many minute Amœbæ. These plasmodia will then attach themselves to the delicate root-hairs of the nearest young cruciferous seedling, penetrate the cells, and thus contaminate the cellular tissue of the root, which, as a consequence, in process of time will develop the clubbed appearance on the surface.

"If cabbage or turnip seeds be sown in a watch-glass, and supplied with distilled water, and shortly after the first appearance of germination a number of spores of *Plasmidiophora brassicæ* be added to the water, these will at first be found to float freely on the water, but sooner or later will sink, and attach themselves to the delicate root-hairs of the little seedlings; and in this way their whole history, so far as now known, can with facility be traced."

Referring recently to this subject in the *Gardeners' Chronicle*, the Rev. M. J. Berkeley thus describes the changes which take place in the cells:—At a very early stage of growth, some of the component cells of the root become very much enlarged, and filled with a granular protoplasm, which soon becomes differentiated, and at last gives birth to multitudes of spherical spores. The most interesting matter now occurs,

—the spores germinate, but instead of producing threads, as the generality of fungi, they give rise to Amœba-like bodies, closely resembling those of the little dusty fungi known under the name of Myxogastres, of which a good example is the yellow dusty plant so common in hot-houses where tan is used. If these germinating spores are now sown, the young seedlings are quickly affected. Sometimes every rootlet becomes altered in shape, at other times the change is partial, but in a short time the disease acquires the usual appearance of clubbing.

Many attempts have been made to find a remedy, but they have been hitherto unsuccessful. The practical results which M. Woronin deduces from his observations are as follows:—The absolute extirpation of the disease appears to be impossible, since any remedy which might be useful is quite as likely to kill the plant as the parasite. The following suggestions are, however, offered with a view to limiting its effects:—

1. The principal means of at least alleviating the disease is to burn everything which is likely to propagate it, and as it has been proved that it can be propagated by the spores, our duty in this matter is plain. Old plants thus affected are often allowed to lie about in the spring, but they should be carefully cleared from the ground and immediately burnt.

2. A careful selection of plants from the seed-bed should be made, and none used which are not perfectly clear. It has been usual under such circumstances merely to pinch off the affected rootlets, but this is not sufficient, as the disease may exist in other rootlets, which are apparently free.

3. A well-considered rotation of crops should be adopted. It is suggested that the ground should not be used a second time for Cabbageworts till after the lapse of two years.

CROTON NOBILIS.

 HIS very fine variety of *Croton*—more correctly, though less familiarly named *Codiaeum*—was sent out by Messrs. Veitch and Sons, of Chelsea, with the accompanying description:—"A beautiful variety, with long pendulous lanceolate leaves, richly coloured with many tints. The colours are crimson, yellow, and green in many shades, the crimson being predominant in the stems, the footstalks of the leaves, and in many of the midribs, where it is bordered by bands of deep golden-yellow. In

CROTON NOBILIS, *alias* CODIÆUM NOBILE.

the latest growth, the prevailing colour is light sulphur-yellow, while the green portion of the plant, at first a bright glossy hue, subsides by age to the deepest olive-green. The gracefully weeping habit of the plant, together with its

showy colours, cannot fail to secure for it a large share of favour. It is altogether a noble Croton, which we consider a decided improvement on *C. majesticus*, and worthy of a place in every collection.”—M.

THE REV. G. JEANS ON THE PHILOSOPHY OF FLORISTS' FLOWERS.

No. VI.

“ **N**VARIETY, I would observe, that by this term I do not mean exactly that quality which gives value to a new seedling plant, by reason of its being different from others already in cultivation; but a quality to be looked for in any single given specimen irrespective of others—that is, not comparative, but absolute; not as differing from its fellows, but as containing differences in itself. And this quality, as I observed before, may arise from either of the three sources of form, number, or colour, or from any two, or all united. The Passion-flower, and still more the Water-lily, strike the eye as much from their varied

forms as colours, and the Hyacinth derives its principal and constant value, irrespective of colour, from the same source. The petals of the Ranunculus are alike in form and markings, but their numbers contribute as much to an appearance of variety as to fullness of outline. And a bizarre Carnation, one which has two colours besides the ground, is considered to belong to a higher class than the simpler flaked kinds. From whatever source, however, arising, it is essential that the florist's flower which would claim a high position should not be deficient in this. In a bed or a border the brilliant colour of some self-flowers make them the most useful and attractive of all, as the

scarlet Geranium, the Gentianella, the *Lobelia cardinalis* or *carulea*, the *Nemophila*, and others; but that is because variety is produced by their being seen as a whole, and contrasted with surrounding objects. Separate a single blossom from the plant, and examine it attentively, and you will find it flag in its interest sooner than one in which relief is given to the eye by variety. Its properties are perceived at a glance, and the eye has done its office; and our copybooks will be found to enunciate a philosophical truth, when they impress upon the child what the child knows better than any philosopher, that it is variety that is charming.

"I. It is produced by form. No class of plants approach the Orchids in illustrations of this. Very few of their blossoms have simple forms; and when there is a leading feature, as in the *Papilio*, in some of which a butterfly is represented as faithfully as a bee in a *Larkspur*, the whole blossom nevertheless is complex. Indeed, it is probably as much from the endless variety in every department of that quality that is found in these flowers, as for any individual superiority they possess, though this too must be accorded to them, that they owe their unrivalled popularity. But as these are beyond the reach of ordinary growers, I prefer drawing my illustrations from more familiar objects.

"A very good instance is the *Fuchsia*. At present, and until *F. spectabilis* has revolutionised the tribe, its pendulous character, its want of petalous expansion, and its glossy texture of skin unbroken for the greater part of its length, seem to remove it in appearance from the class of flowers, and liken it to a fruit. It is, however, and will probably always continue, very popular, and it has several points of high excellence, of which I have here only to remark upon those which depend on the variety of its outline.

"Flowers of this class differ from those of a more uniform surface, in a manner somewhat analogous to the difference between sculpture and paintings, and are hardly more fit to exhibit delicate markings of colour than a statue would be. Contrasts, brilliance, or an attractive colour as a whole, are the points in this respect in which their excellence is to be sought. But the very unevenness of form which prevents the finer uses of colouring, is itself the parent of many advantages. The general outline is ever varying, and never the same from any two points of view. The ordinary position of the blossom of the *Fuchsia* on the plant is full of variety. The long and gracefully arched footstalk, the seedpod, the tube, itself rarely cylindrical, the calyx, the corolla, the anthers, and pistil, form a constantly varying and pleasing outline. But in this position the petals are, for the most part, and sometimes entirely, hidden, and if you examine

them, the tube is out of sight. It is owing chiefly to this that the notched, starry appearance of the open sepals in most varieties, so disagreeable in other flowers, is no disqualification in this—indeed, it has a positive advantage in opening to sight the contrasted colours of the corolla within.

"Nor does it signify whether the variety of form be in the substance or in the markings of flowers. The Carnation owes much, though not all, of its superiority to the Picotee or the Pink (excuse me, ladies), to the fact that, without violence to its general unity, it has no two petals, and no two stripes on the same petal, alike in the form of their colours. A *Calceolaria* that has its spots or its stripes all of the same size and shape, is tame compared with one that is more varied in its markings.

"The *Pelargonium* and the *Pansy* have many points common to both, and each flower has its respective admirers; but general estimation assigns the palm to the former, and it may be interesting, and not uninstructive, to trace to the quality now under consideration some of the superiority of the one over the other. The number of petals, their form, the order of their disposition, and their relative importance, are the same in both flowers. The general outline is, in the main, alike, and the required properties, as far as they can be compared, not very different; yet the ideas excited by them are exceedingly dissimilar, the reasons of which I will now investigate.

"1. The *Pelargonium* has a throat, the *Pansy* terminates at the eye; and therefore the former has a whole class of properties of which the latter is deprived; and these, though not numerous, have a very influential bearing upon the general appearance of the flower, and are becoming of more importance to its estimation every year. Here is an advantage in respect of variety.

"2. Again, an immediate result from its closed throat is, that the *Pansy* cannot be too flat; whereas a flat-centred *Pelargonium*, like *Meleager*, proves that the brightest colour loses something of its brightness, and becomes flat-coloured from the deadness of its surface. The form of the *Pelargonium* has the advantage again in variety, which gives greater effect to its colours.

"3. A corresponding difference is observable also at the limb or outer extremity. Owing partly to its flat centre and partly to its flimsy substance, the edge of the *Pansy* must be flat likewise. In fact, it never curves inwards but when withering, or outwards but from inability to support its own weight. The stouter texture of the *Pelargonium* admits of its being slightly either inflected or reflected, and thus another source of graceful variety is obtained, the one making an approach in form to the reversed ogee, or Hogarth's line of beauty, the other to

that of the rim of a Tuscan vase. And Meleager is, as might be expected, an instance in this too of the loss sustained by a flower which gives up one of its properties, for it is as level as a Pansy. And therefore, notwithstanding its very high colour and beautiful tint, it is not brilliant. There is much value in the varying surface of the Pelargonium, another proof of which will be referred to presently under another head ; and therefore, from its greater richness in variety of outline, as well as for some other advantages, it is completely removed from fear of rivalry on the part of its humbler but not less pretty sister, the Pansy.

“ Variety may also be produced by number, when the units composing it are alike, as in spotted, striped, or double flowers. Thus a spotted Calceolaria or a striped Marigold is not destitute of variety, by reason of the many changes of individual object the eye has to take in. The same may be said of a double Rose or Dahlia. Not that this is the only object attained by multiplying the petals, because the general outline commonly undergoes thereby a complete alteration, and properties that were prominent before become subordinate or altogether obliterated, and others take their place. From this it happens that some flowers, as the Tulip, are handsomer when single, others when double, as the Rose. Nor is it always easy to predict which of the two is the more desirable form, until actual comparison has decided between them. A few general remarks, however, are applicable.

“ 1. To bear the double condition with advantage the petals must be symmetrical, or such as that, a line being drawn lengthwise through the centre, the parts on each side of this line shall be alike. For if otherwise, the entire petal will have a peculiar and distinctive shape, in which some, and perhaps the chief, properties of the flower are contained ; and these will be hidden and lost in the double form. The lower petals of the Pelargonium are symmetrical ; but the upper petals are not, and in these the leading characters are found. And therefore a double Pelargonium would be no advantage. The double condition would reduce all at an equal distance from the centre to an equal value, or else would make a one-sided flower. It so happens that direct experiment has in a manner shown this to be correct, for this year I had a blossom of Aurora with four upper and six under petals—an exactly double allowance ; and certainly it was no improvement.

“ 2. Size by itself gives no means of judging ; for the Dahlia is as large as the Tulip, and the former gains, while the latter loses, by being doubled. So again, on the other side, the Hepaticæ loses, while the Daisy and American Groundsel, which are no larger, gain by it.

“ 3. But size and colour conjointly do enable

us in some measure to form a judgment. For if delicacy of touch in the strokes of colouring be one of the leading characteristics of the flower, according to which varieties are discerned and prized, the individual blossom is of more importance than the mass of bloom, and size (proportionate to the growth and habit of the plant) is indispensable ; in which case multiplying the petals hides the beauties and deteriorates the character. A double Auricula or a double Tulip could never be endowed with so many points of excellence as belong to them in their single state. This is not the case with a Rose or a Dahlia. They are large, but their colour is valued as a whole, not in its parts ; and the variety caused by numerous petals and a filled-up outline is advantageous to them, as their size admits of such an increase without detriment to their brightness.

“ But if, on the contrary, it is the colour itself, and not the pencilling of colour, that is the characteristic, and the size of the individual blossom be small, then the brilliancy is greatly impaired by the flower being doubled. The single and the double pink Hepaticæ are of the same hue ; but the single one is far the more striking flower, because its whole bright surface is seen. In the double, the petals being so small and seen edgewise, much of the brightness is lost, and it looks comparatively uninteresting. In the Dahlia, Rose, and others, the surface is so much larger that this effect is not produced.

“ The colours of the Cineraria are so bright, in some instances so dazzlingly so, that even while its pretensions were far humbler than they are now, I have doubted whether, in losing the intensity of its hue, which would be unavoidable were it to become double, it would not proportionately lose its interest. It is now, however, developing qualities which put the other impediment also in the way, and render a double Cineraria a thing not to be wished for.

“ Of variety produced by colours I shall speak under the head of Colour.—IOTA.”

THE CULTURE OF WALL FRUITS.

CHAPTER XV.—THE APRICOT (*continued*).

PEFERRING again to the case of a tree carefully lifted and planted in the required position in October, the mutual action between the roots and branches must never be lost sight of in the after-stages of growth, as they depend upon each other for a proper development. Cut away the roots, and the branches immediately indicate that the source of supply has been interfered with, and become weak and attenuated. This is plainly obvious to the eye of the practical man, and in

like manner, reasoning by analogy, we are justified in concluding that when we deprive a tree of a great portion of luxuriant leaf-growth, the roots are affected in a similar way. Therefore, to put theory into practice, it is well in the early stages of a tree so favourably planted, to encourage a free growth in the branches for a time, in order that there may be a corresponding production of roots; and this encouragement may be continued until the termination of the first or summer growth, which will generally happen early in July. After this there comes a period of rest or of stagnation in growth, which is also about the stoning-time in fruit trees of this class. Later on, the trees break into a second or autumn growth, which is seldom of much use, except to fill up vacancies, for although the wood thus formed often produces blossoms freely, yet, owing to the incompleteness of the ripening process, these blossoms are generally abortive.

As, then, the growth made in the summer is that which is to be depended upon for the production of fruit, it becomes obvious that this early growth should be freely encouraged, so that when the summer stagnation in growth occurs, the operator may have a good choice of fruitful wood to lay in, to keep the trees well furnished, and in sufficient quantity to absorb, in its full ripening development, the most of the sap sent up in the autumn. The late growth then becomes a matter of little consequence; the more so, as the shoots which are not required for laying-in are available, in the case of the Apricot, for the formation of fruit-bearing spurs, and will greatly assist in the absorption of the autumn flow of sap.

Apricots may be trained on the same system as the Peach, that is, to produce their fruit on the young wood of the previous year, and in this way the finest fruit may generally be obtained. When this method is exclusively followed, disbudding must be commenced early, and the young superabundant shoots entirely removed, without any reference to spur treatment, exactly in the same manner as is practised in the case of the Peach; but it is justifiable to nail in a goodly number of shoots, first to give the operator a good choice of wood for the next year's produce, and next for the twofold purpose of checking a too luxuriant growth in particular shoots, and as aids to a

free formation of roots. As a general rule, however, a combination of the two methods is usually followed, as it ensures a greater number of fruit, which, although smaller, are very useful for the many purposes to which this valuable fruit is applied. In carrying out this latter system, early disbudding should only be practised upon the foreright and ill-placed shoots, leaving the remainder to grow on without any check until the end of June or beginning of July, by which time, in most seasons, the summer growth will be perfected, and the operator may at once commence to lay in the necessary amount of shoots for the furnishing of the tree. As there will be a good choice, the strongest should not by any means be selected, but rather medium-sized and fruitful-looking wood. The remaining shoots are available for the formation of spurs, and as in Apricots these shoots are often very thickly crowded together, it is advisable that a proportion of them should be entirely removed, this affording an opportunity for cutting closely off any large ones which show signs of extra luxuriance, and for judiciously thinning-out the remainder. The shoots intended for spurs should then be shortened to five or six perfect leaves, taking great care to retain those leaves, as upon their preservation depends the formation of strong fruit-buds.

I recommend the training to the wires or walls, as the case may be, a good supply of the summer growth, and leaving the spurs rather longer than will be required for the next season, because the trees, if at all vigorous, are certain to develop a strong autumn growth, and the more channels there are provided for carrying off this superfluous energy, the less likelihood will there be of starting into growth any of the buds which ought to form the fruit-buds for the next season.

This practice is more applicable and necessary for young and vigorous trees than for older trees in full bearing, for young trees are apt to be over-vigorous and throw out coarse luxuriant shoots; and this method of permitting the whole of the shoots, with few exceptions, to grow on undisturbed until the end of the first or summer growth, is calculated to check over-luxuriance, and induce a more fruitful habit in the wood; whereas, older trees, in the production of blossoms and fruit, go through an exhaustive process which acts as a check sufficiently powerful to prevent over-luxuriance of growth; and for this reason, in their case, an earlier resort may be had with advantage to disbudding and stopping.—JOHN COX, *Redleaf*.





Cinerarias:

1. Pink Perfection. 2. Queen of Violets. 3. The Prince.

DOUBLE-FLOWERED CINERARIAS.

[PLATE 475.]

 HATEVER rank as a decorative plant the double-flowered Cineraria may ultimately attain, there can be no doubt that varieties such as those represented in the accompanying plate are very handsome. Some of the old florists, indeed, have expressed doubts as to whether the doubling of the flower-heads, as we call it—that is, the conversion of the disk florets into ligulate petaloid florets, like those of the ray—would be any improvement in the Cineraria, but beautiful as are the florists' as well as the decorative single types of this flower, there can, we think, be no doubt that our illustration represents a type which, if varied, is at least of equal beauty.

In days gone by, the old double-flowered Jacobaea (*Senecio elegans*) was a popular and favourite plant for greenhouses and summer flower-gardens, and a nicely-grown plant of the best variety was a very beautiful object. There is no flower which the double Cineraria resembles so much as the double Jacobaea, which certainly has not dropped out of cultivation

from any demerit of its own, but has simply been elbowed out of a prominent position—like the Verbena and others—by the rage for bedding-out, which has led to the undue aggrandisement of the brilliant, but ever-encroaching Pelargonium, which happened, by its free-growing sturdy habit, to best suit that style of gardening.

The double-flowered Cinerarias represented in our plate were sent to us by Messrs. Dicksons and Co., of Edinburgh, and were, we believe, raised by them. They are very faithfully portrayed by Mr. Macfarlane's sketches, of which Fig. 1, called PINK PERFECTION, is of a pale pinkish-rose; fig. 2, QUEEN OF VIOLETS, is a rich deep purple; fig. 3, THE PRINCE, is a deep magenta-rose. The flowers in all these, and in some other named sorts which accompanied them, were perfectly full and regular, and the inflorescence formed close dense heads, of which a small sprig only is here shown. We do not yet despair of seeing a race of good double Cinerarias.—T. MOORE.

NATIONAL CARNATION AND PICOTEE SOCIETY.

[NORTHERN SHOW.]

 HIS meeting was held, as announced, in the garden of the Royal Manchester Botanical and Horticultural Society, at Old Trafford, on August 3, 5, and 6, and was one of the most extensive exhibitions of these flowers which has of late years been held in the Northern districts of England. One exhibitor, who, as we learn, did not so much as find a place on the prize list, staged as many as 200 flowers, and in the classes for single blooms it is probable that so large a number was never before brought together.

Carnations were shown in very fine fresh and matured condition by Mr. G. Rudd, who had the honour to grow the premier flower of the day, a grand Mercury, s.b., and also Lord Milton, c.b., finely coloured. R. Gorton, Esq., had a bloom of Mercury scarcely inferior to the premier flower, and a very fine bloom of Rifleman, c.b. Mr. E. Pohlman showed a fine R.F. sport of Lord Milton, which was considered to be highly promising. Mr. Booth brought out a good even lot of flowers, including some capital examples of the s.b. class

—Admiral Curzon, Lord Napier, and Sir Joseph Paxton. Mr. B. Simonite's flowers had been so punished by the unfavourable season, that they were not of their usual high quality; nevertheless, he had some grand seedlings, of which a s.b., p.f., and s.f. deserve especial mention.

Picotees were well shown by Mr. J. Booth, whose blooms had the great charm of freshness; and amongst them, Medina and Zerlina, h.p., and Mary, l.p., were especially fine. Mr. Gorton had a very fine bloom of Mrs. Fuller, h.r., and Mr. G. Rudd a grand example of Thomas William, l.r.

These flowers are very greatly influenced by the seasons, certain varieties blooming well one year, and but indifferently the next, when the climatal conditions may be altered. This is not only found to occur in the same districts, as the results of successive years' bloom are compared, but applies with equal if not greater force to the differences presented by the North and South divisions of the country, varieties that bloom well in the North being sometimes very

inferior the same year in the South, and *vice versa*. This is one of the difficulties of growing these flowers in the perfection in which they are required for exhibition purposes; and as the nature of the seasons cannot be forecast with any degree of certainty, it is necessary for those who desire to stand well on the prize lists to grow a considerable number of sorts beyond what are actually required, in order that they may not be placed at a disadvantage by reason of the varying idiosyncratic temperament of the several varieties. The following are notes of the awards:—

12 CARNATIONS, dissimilar.—1st, Mr. G. Rudd, Undercliffe, Bradford, with Mercury, s.b.; Sibyl, r.f.; J. D. Hextall, c.b.; Juno, p.f.; Sportsman, s.f.; James Douglas, p.f.; Clipper, s.f.; Mars, s.b.; Sarah Payne, p.p.b.; Garibaldi, s.b.; John Keet, r.p.; John Harland, c.b.—a fine stand, the flowers being even in size and very fresh. 2nd, Mr. Jonathan Booth, Pole Lane, Failsworth, Manchester, who had, amongst others, good blooms of James Cheetham, s.f.; Earl of Wilton, p.f.; William Harland, s.f.; Lord Napier, s.b.; Mrs. Hurst, r.f., and Splendour, s.f.—a very good stand. 3rd, Mr. Ben Simonite, Rough Bank, Sheffield, with a stand, consisting mostly of his own seedlings. 4th, Mr. R. Lord, Hole Bottom, Todmordie. 5th, Mr. John Beswick, Middleton, Manchester.

12 CARNATIONS, 9 dissimilar.—1st, Richard Gorton, Esq., Eccles, near Manchester, with Mercury, c.b.; Roso of Stapleford, r.f.; Mr. Battersby, s.f.; Albion's Pride, c.b.; Fanny Gardiner, s.b.; Rifleman, c.b.; Clipper, s.f.; Graceless Tom, c.b.; Juno, p.f.; and Sir Joseph Paxton, s.b.—a very fine stand, Rifleman and Graceless Tom being superb. 2nd, Mr. John Fletcher, North Brierly, Bradford, who had good blooms of Admiral Curzon, s.b.; Sportsman, s.f., and Mars, s.b. 3rd, Mr. T. Mellor, Ashton-under-Lyne. 4th, Mr. Joseph Chadwick, Dukinfield.

6 CARNATIONS, dissimilar.—1st, Mr. W. Taylor, Middleton, Manchester, with Sportsman, s.f.; Lovely Ann, r.f.; Admiral Curzon, s.b.; Mr. Battersby, s.f.; Earl of Wilton, p.f.; and Lord Napier, s.b.—a very fine stand. 2nd, Mr. E. Pohlman, Halifax. 3rd, Mr. F. Bateman, Low Moor, Chesterfield. 4th, Mr. W. Slack, Queen Street, Chesterfield. 5th, Mr. John Whittaker Royton, Rochdale.

CARNATIONS, single blooms.—Scarlet Bizarres: 1st, Mr. J. Booth, with Admiral Curzon; 2nd, Mr. R. Lord, with the same; 3rd, Mr. Booth, with Lord Napier; and 4th, with Admiral Curzon; 5th, Mr. Ben Simonite, with a seedling; 6th, Mr. G. Rudd, with Sir J. Paxton.—Crimson Bizarres: 1st, Mr. G. Rudd, with Lord Milton; 2nd, Mr. B. Simonite, with a seedling; 3rd, Mr. J. Booth, with Captain Stott, and 4th, with Lord Goderich; 5th, Mr. G. Rudd, with Captain Stott; 6th, Mr. J. Booth, with Eccentric Jack.—Pink and purple Bizarres: 1st, 2nd, 3rd, Mr. J. Booth, with Eccentric Jack and James Taylor; 4th, Mr. G. Rudd, with Wm. Murray; 5th and 6th, R. Gorton, Esq., with Sarah Payne.—Scarlet Flakes: 1st, Mr. R. Lord, with Clipper; 2nd, Mr. G. Rudd, with Sportsman; 3rd, Mr. R. Lord, with Annihilator; 4th, Mr. J. Booth, with a seedling; 5th, Mr. W. Taylor, with Annihilator; 6th, Mr. J. Beswick, with James Cheetham.—Purple Flakes: 1st and 2nd, Mr. R. Lord, with Dr. Foster

and Squire Meynell; 3rd, Mr. G. Rudd, with Squire Meynell; 4th, Mr. R. Lord, with Juno; 5th and 6th, Mr. Ben Simonite, with seedlings.—Rose Flakes: 1st, 2nd, 3rd, Mr. G. Rudd, with James Merryweather and Lovely Ann; 4th, Mr. W. Taylor, with Apollo; 5th, with Lovely Ann; 6th, Mr. R. Lord, with John Keet.

The *Premier Carnation* was Mercury, s.b., shown by Mr. G. Rudd, of Bradford, and staged as cut from the plant.

12 PICOTEES, dissimilar.—1st, Mr. J. Booth, with J. B. Bryant, h.r.; Beauty of Plumstead, l.s.; Ada Mary, l.r.; Zerlina, n.p.; Ethel, l.r.; Mrs. Summers, l.r.; Miss Horuer, h.r.o.; Brunette, h.r.; Alliance, h.p.; Mary, l.p.; Medina, n.p.; and Edith Dombrain, n.r.o.; a fine stand of medium-sized flowers. 2nd, Mr. R. Lord, who had of sorts not included in the former stand, John Smith, n.r.; Mrs. Allcroft, l.r.o., a superb bloom; Rev. F. D. Horner, l.r.; Ann Lord, l.p.; William Summers, h.r.; Mrs. Niven, n.p.; Mrs. Lord, h.r.o.; Alice, l.p.; and Miss Small; a very excellent lot of blooms. 3rd, Mr. B. Simonite, with very fine seedlings, especially a light red, after the style of Mary. 4th, Mr. J. Beswick. 5th, Mr. G. Rudd.

12 PICOTEES, 9 dissimilar.—1st, R. Gorton, Esq., with Edith Dombrain, h.r.o.; Mrs. Fuller, h.r.; Purity, h.r.o.; Norfolk Beauty, h.p.; Wm. Summers, l.r.; Mary, l.r.; Fauny Helen, h.r.o.; Zerliua, h.p.; and J. B. Bryant, h.r.—a stand of fine, bright flowers. 2nd, Mr. Mellor. 3rd, Mr. Fletcher. 4th, Mr. Chadwick.

6 PICOTEES, dissimilar.—1st, Mr. E. Pohlman, who had in good condition, Flower of the Day, h.s.; and Miunie, l.p. 2nd, Mr. W. Taylor, who had a fine Brunette, h.r., which has bloomed well this year; and Mrs. Lord, a fine h.r.o. 3rd, F. Bateman, Esq. 4th, Mr. W. Slack. 5th, Mr. W. Whittaker.

PICOTEES, single blooms.—Red, heavy-edged: 1st, 2nd, 3rd, and 4th, Mr. R. Lord, with John Smith; 5th, Mr. B. Simonite, with Princess of Wales; 6th, R. Gorton, Esq., with Mrs. Fuller.—Red, light-edged: 1st, Mr. R. Lord, with Rev. F. D. Horner; 2nd, 3rd, 4th, 5th, and 6th, Mr. J. Booth, with Wm. Summers, Mrs. Bowers, and Ada Mary.—Purple, heavy-edged: 1st and 6th, Mr. J. Booth, with Alliance; 2nd, Mr. J. Beswick, with Mrs. Summers; 3rd, Mr. B. Simonite, with Mrs. Niven; 4th, Mr. R. Lord, with Zerliua; 5th, Mr. J. Booth, with Fauny.—Purple, light-edged: 1st, Mr. B. Simonite, with Mary; 2nd, Mr. J. Booth, with Mary; 3rd, Mr. Mellor, with Mary; 4th, Mr. J. Beswick, with Ann Lord; 5th, with Mary; and 6th, with Ann Lord.—Rose, heavy-edged: 1st, Mr. B. Simonite, with Lady Louisa; 2nd, Mr. J. Beswick, with Bonny Jane; 3rd, Mr. R. Lord, with Miss Horner; 4th and 6th, Mr. J. Booth, with Fauny Helen; 5th, Mr. Lord, with Mrs. Lord.—Rose, light-edged: 1st, Mr. R. Lord, with Mrs. Allcroft; 2nd, Mr. Mellor, with Miss Wood; 3rd, Mr. B. Simonite, with Miss Wood; 4th, R. Gorton, Esq., with Empress Eugénie; 5th, Mr. J. Beswick, with Mrs. Allcroft; 6th, Mr. J. Booth, with Miss Wood.

The *Premier Picotee* was Mrs. Allcroft, l.r.o. shown by Mr. R. Lord.

ADIANTUM TETRAPHYLLUM GRACILE.

UR gardens have long possessed the *Adiantum tetraphyllum*, a fern of tropical America, better known, perhaps, under the name of *A. prionophyllum*. Several forms of Maidenhair-fern, more or less varied, have



ADIANTUM TETRAPHYLLUM GRACILE.

been included under this name, and whoever will collect the *A. tetraphyllum* of gardens from various sources will probably find he has several different plants before him. In other words, the *A. tetraphyllum* of gardens embraces more than one form or species—probably several, now so intermixed as not to be easily separable, or referred to their original sources.

The plant represented in the accompanying figure is another of these forms, distinct from any in cultivation, and therefore distinguished as a variety by the name *gracile*. It was introduced by Mr. Bull, from the United States of Colombia, and is of moderate stature, remarkable for the beautiful reddish tint assumed by its fronds, when they are first put forth. The stipes is slender, black; the fronds bipinnate, elegantly arching in growth, and dividing into from four to six pinnæ, which are linear, parallel-sided, six to eight inches long, and terminate in a long lobe, which diminishes to

the point. The pinnules are nearly equal-sided above and below, the end next the rachis cut off parallel therewith, and the other end cut off obliquely. The upper and less fully fertile pinnules are serrated towards the tip, the sori being interrupted, while the pinnules in the sterile fronds are subfalcate. The red colour of the young fronds gives the plant a very pleasing character.—T. MOORE.

HOW TO USE LETTUCES.

W^WNY one who has a fancy for horticulture, and possesses a kitchen garden, however small, is sure to grow Lettuces. They give an exotic look to the garden, as if they were higher in the scale than such crops as Cabbages and Potatos; and they certainly have properties that neither Cabbages nor Potatos can pretend to, since you can eat Lettuces raw as salad on the spot where they are grown, and on the instant; while most

kitchen-garden produce has to be cooked, and is not available in the raw state.

There is a prejudice against Lettuces on account of the milky juice which they contain; and if people were condemned to live upon lettuce alone, they might have good cause to complain. It has been said that the green curled kale, so important an item in the Scottish dietary, corrects the heating tendency of the oatmeal; and the matter is not open to dispute, for oatmeal and kale, and potatoes and milk, certainly feed the vast majority of the people—and that both well and economically. We are told that when the Northern and Western nations returned from the Crusades, they brought the Eastern fashions and luxuries along with them, and discarded some views and customs they once held, for the habits and manners of the foreigner. In nothing has this been so clearly seen as in the fruits and vegetables introduced from time to time, so that we now possess a very large portion of the plants that can endure our climate; and these exotics are many of them staple articles of our food, drink, and commerce.

Among the small fry of cottage garden comforts, we place the Lettuce, whether Cos or Cabbage, as an agreeable vegetable, vastly improving our evening meals, and that at a mere trifle of cost; for although lettuces can be transplanted when young into any spare ground as a second crop, it is always less trouble, if the circumstances permit, to sow the seeds where the crop is to stand, and afterwards to thin them out. A fine large lettuce can be grown on a square of 9 in. on the side, or say, sixteen to the square yard. This, of course, relates to lettuces full grown, but one object of this paper is to try to get people into the way of eating lettuces boiled, as in Spain and elsewhere, and in that case half-grown lettuces are quite as eligible as full-grown ones. This gives quite a new idea of the crop, for if the season is far advanced, so that there would not be time to get turnips or coleworts to any size, there would be time enough for a crop of lettuces, and they might be sown or planted thicker in such a case. Any plant that is tender in the raw state, as lettuce, celery, &c., is certain not to be tough when properly boiled, and in the sunny South, where green vegetables are scarce, and most things get sun dried, boiled lettuces are properly esteemed.

There is, indeed, no doing anything well in the way of cookery, unless you have a field or garden to fall back upon. A few mushrooms gathered in a pasture-field at grey dawn are, when in good hands, certainly second to nothing save beef-steak pudding in flavour; and ketchup, often to be had for little or nothing but the trouble of gathering, is worthy of all praise. In the case of the cottager's garden, the hard-hearted cabbage is able to supply half the dinner; and he that dines on bacon and home-grown beans has good cause for thankfulness.

It is not my intention to disparage second crops, where they can be got, such as turnips after a crop of early peas, but the short-lived lettuces come in where few other crops would be available, and the richer the ground the more crisp and high in quality will the lettuces be. They are topers for wet, and enjoy the hot sun, so that where there are heat and wet there will be no lack of lettuces, both for the salad-bowl and the vegetable dish. There was an old-fashioned custom among kitchen gardeners when sowing the main crop of onions to sprinkle a pinch of lettuce-seed at random over the beds, and these, having plenty of room, would come to be fine plants early. Under the name of London Lettuce, the Manchester and other Northern markets are supplied with early lettuces from the South and from foreign parts, and these realise high prices.—

ALEX. FORSYTH, *Salford.*

MARKET PLANTS.—VI.

THE LARGE-FLOWERED PELARGONIUM.

OF anything like statistics of the number of plants of the Pelargonium grown every year for the London markets could be collected, they would astound by the vastness of their totals. It is one of a few leading market plants, and being an invaluable decorative subject, is in much demand. This is not to be wondered at, for the plants are well and cleanly grown, very large for the size of the pots in which they are grown (48 size), finely bloomed, of good and striking varieties, and very much beyond in point of finish the Pelargoniums usually seen in an amateur's greenhouse. Probably no market plant is seen to better advantage, and is, on the whole, better finished than a Pelargonium. How such a splendid plant—splendid in its luxuriant growth and head of bloom—can be grown to such perfection in so small a pot is a surprise to many. At the Whit-Monday show of the Royal Horticultural Society,

Mr. William Brown, of Hendon, one of the leading market growers, staged a collection of market Pelargoniums, among them a fine high-coloured variety named *Mermberos*, and a plant selected from the batch, growing, be it remembered, in a 48-sized pot, was found to have seven main shoots, and these had branched into various others; and on these shoots there were thirty-six expanded trusses of bloom, with others coming on into flower. Why, it was a fine exhibition specimen in a 48-pot—a much better show specimen than is met with at many country flower-shows, growing in an 8-in. or a 10-in. pot.

There are many growers of Pelargoniums for market, but two of the leading ones are Messrs. J. and J. Hayes, of Edmonton, and Mr. W. Brown, of Hendon. The principal varieties grown at Edmonton are *Princess Hortense*, *Kingston Beauty*, *Coronet*, *Rob Roy*, *Duchess of Edinburgh*, which is considered to be superior to the newer *Duchess of Bedford*, *Boucharlat*, and *Triumphant*. As several of the fine new "regal" varieties originated at Edmonton, it is not to be wondered at that they are grown also, since they promise to make remunerative market kinds; these are *Queen Victoria*, *Prince of Pelargoniums*, *Prince of Wales*, *Princess of Wales*, *Prince Teck*, *Beauty of Oxton*, and *Dr. Masters*. Other market growers have a larger choice of varieties; *Triomphe de St. Mandé*, and others, are much grown, but those given above may be accepted as standard market sorts.

Mr. W. Brown, of Hendon, who every season markets some 6,000 plants (and one of the large Hendon Pelargonium houses, when full of plants ready for market, is a sight never to be forgotten), mainly of varieties raised by himself, and very fine some of them are. Among these are *Mermberos*, *Mermberos Improved*, *Challenger*, *T. A. Dickson*, and *Sultan*; and of older varieties raised by other growers, *Mabel*, *Rob Roy*, *Fascination*, *Reflection*, and *Whetstone Hero*. Mr. Brown finds that high-coloured varieties find a readier and better sale than do the lighter ones, and by far the largest proportion of his plants have high-coloured flowers. *Mermberos*, *Mermberos Improved*, and *T. A. Dickson* are fine varieties of this type, well adapted for market and decorative purposes.

Cuttings are put in from June to August. Every bit of wood available for cutting purposes is seized on, and when a batch of plants is sent to market, they are looked over, and any branch that might be termed a superlative appendage to the plant is turned into cuttings. In addition, certain plants are also kept back for propagating purposes, and during the three months named, the work of propagation is carried on with avidity. The cuttings are put in 48-pots in a light free sandy soil, and stood on the front stage of the plant houses. They soon root, and are then potted off singly,

the strongest into middle 60's, the weakest into thumbs, and as soon as there is room to stow them away in the houses, they are potted into the market pots (48's). The great thing is to get the plants well established and thriving in the 60-pots; it is then that the foundation of the fine free market plant is laid.

Some people suppose that these market plants are fed with exciting stimulants to bring them to such perfection, but this is not true. Very little indeed is administered, and very many of the plants do not have any. The great success is mainly a matter of soil, watering, and attention. A rich soil is used, because it is made up in great measure of well-decomposed manure, dried almost to powder, a good loam, leaf-soil, and a little sand. This is a holding compost, supplying the plants with rare nutriment. Watering is of the first importance, especially so when the roots have completely filled the pots. The plants are never permitted to suffer for want of water. The plant-houses are so light and airy that the plants cannot fail to do well; and then there is a constant round of daily attentions that, apparently little in themselves, are yet important factors in the sum of success that crowns the efforts of the grower. Sweetness of the pots is another very important particular in successful cultivation. A good market grower confines himself to certain subjects, and so disposes of his staff that each subject shall be properly cared for just at the right time. There is something akin to scientific exactness in growing market plants, and they appear to be as docile as children when the course of cultivation is intelligently ordered, and strictly carried out in all its details.—R. DEAN, *Ealing, W.*

VILLA GARDENING FOR SEPTEMBER.

LAST month we were congratulating Villa Gardeners on the brilliant summer weather. It has passed away, and left in its place a showery time—and such showers, too! When the rain comes, it is with something akin to fury; it is heavy, drenching, and constant, but excepting that it destroys for a time the beauty of the flower-beds, and somewhat interferes with work, gardeners have not great reason to deplore the rainfall, for it is, on the whole, beneficial.

GREENHOUSE.—All the soft-wooded plants named last month are still in bloom, and if the decaying flowers be picked off, the plants kept clean, and carefully watered, will remain gay for some time yet. *Thunbergias* make very pretty greenhouse plants, but require to be well grown and managed, as they are so subject to red spider; they require plenty of pot-room and waterings with manure-water, and

also occasional syringings over-head, to keep them growing vigorously. The pretty purple *Globe Amaranthus*, *Celosia pyramidalis*, *Lantanas* in variety, *Rochea falcata*, *Agapanthus umbellatus*, *Begonia weltoniensis*, and some of the commoner tuberous-rooted *Begonias*, with others too numerous to mention, are very useful and appropriate for mingling with other things to assist the floral effect in the greenhouse. A few *Show* and *Zonal Pelargoniums* kept in reserve for flowering in September, should now be allowed to grow on as fast and vigorously as possible. If the roots are getting a little pot-bound, a slight shift may be given to the plants, taking care to break the balls as little as possible. We have treated a batch of plants in this way, and they are doing remarkably well. Little attentions to plants are now of great value. The removal of dead blossoms, and the picking off of dead leaves, with occasional syringings overhead, give the plants a fresh and bright appearance, and greatly help the gay appearance of a house. Let the floor be kept swept, and sprinkled in hot weather, to keep it cool; all these matters are valuable aids.

The earliest cut-back *Show Pelargoniums* will soon be ready for shifting. This is best done when the young shoots from the old cut-back branches have shot about three-quarters of an inch. Loam, sand, leaf-mould, and well-decayed manure suits the *Pelargonium* best; and in repotting, shake nearly the whole of the soil from the roots, cut away the old long roots, and repot in a smaller pot. The plants may then be returned to the shady side of the greenhouse. *Cinerarias*, *Calceolarias*, and *Primulas*, raised from seed, sown recently, will need to be pricked off into store pots or pans, or the largest put singly in pots, to grow on into size for early blooming. *Cyclamen* seed should be sown without delay, sowing in a good light rich soil in pots or pans, and if possible raising by means of a gentle bottom-heat.

FLOWER GARDEN.—Many villa gardeners are complaining that their bedding and border plants are growing out of all proportion, and quite spoiling the effectiveness of their summer arrangement. It cannot be helped, for it is the result of rain, and no human power can prevent its falling on the plants. Rank-growing *Zonal Pelargoniums* may be kept in check by pinching out the leading shoots just above a truss of bloom. Some others may be similarly treated. If a dry late summer should follow after the rain and the vigorous growth it promotes, a good head of flower may be anticipated till late in the season.

Now is the time to prepare for a stock of plants for next season. Cuttings of anything it is desirable to keep should be put in without delay, placing them in pots of sandy soil, or in shallow boxes filled with the same, and getting the shelter of a frame for a time. What is

propagated depends mainly on the means for keeping the plants during the winter, for it is useless to propagate tender things that will die amid the cold and wet of autumn. Cuttings of *Pelargoniums*, *Calceolarias*, *Verbenas*, *Fuchsias*, *Lobelias*, and plants of such hardy character, can be kept during the winter without much trouble; *Alternantheras*, *Coleus*, *Heliotropes*, and such as are tender, cannot be kept except in heat. Succulent plants, such as *Sedums*, *Sempervivums*, *Saxifragas*, *Echeverias*, &c., propagate themselves by means of offsets and side-shoots, which if taken off and put into pots, pans, or boxes, can be kept safely through the winter: as may many indeed of a tender character, if they be kept warm and dry. A supply of *Wallflowers*, *Canterbury Bells*, *Fox-gloves*, *Forget-me-nots*, *Pansies* and *Violas*, *Daisies*, *Polyanthus*, &c., should be got together for spring, and if none have been raised from seed, they can be bought during the month at moderate prices. Such useful things as the foregoing furnish the garden when something cheerful is most needed.

KITCHEN GARDEN.—Last month a sowing of *Cauliflower* seed was recommended. In some very sheltered gardens the plants will stand all the winter without any protection further than what a south wall affords, but as a rule the plants should have the protection of a frame or hand-lights; but, in any case, they must be transplanted from the seed beds. *Greens* for autumn and winter use are making rapid progress. Such things as *Savoys*, *Broccoli*, *Borecole*, and *Brussels' Sprouts* should be kept clear of weeds, and a little of the earth drawn up about the stems. The *Onion* crop will soon be ripening off, and will need storing; it is a good plan to spread them out on a mat for two or three days, till they become dry and hard. The best way to store onions is to rope the largest, making use of the small ones for culinary purposes first.

FRUIT GARDEN.—Fruit should be gathered as it ripens; bruised or fallen apples should be used without delay. Cleanliness is of great importance to keeping fruit, and wherever it is stored, the place should be airy and cool. "No growths," remarks a good fruit gardener, "should be allowed to grow on fruit-trees now; everything should be done to expose the wood (for next year's fruiting) to sun and air. A good washing with a syringe or engine should be given to *Peaches*, *Nectarines*, *Apricots*, &c., to clear off all deposits and insects. If mildew appears, let a good dusting with sulphur be given. Trees are too often neglected as to watering at the roots after the fruit is gathered; premature ripening then takes place, perhaps accompanied with mildew, and the wood looks hard and fruitful, but seldom carries a crop of fruit in spring." Villa gardeners will find in these remarks suggestions worth careful consideration.

—SUBURBANUS.

GARDEN GOSSIP.

THE FRUIT CROP of 1878, as fully tabulated in the *Gardeners' Chronicle* of August 10, though not quite so deficient as those of the two preceding years, is not generally a very abundant one, although perhaps better than was at one time anticipated. Our contemporary publishes returns from upwards of 200 correspondents scattered over the whole of the United Kingdom and the Channel Isles; and the result of the information thus brought together may be approximately summarised as follows:—

No. of Reports.	Aver- age.	Over Av., or Good.	Under Av., or Bad.
Apples.....	217	42	6
Pears	219	52	2
Plums	218	80	54
Cherries	152	96	41
Apricots	168	32	12
Peaches, &c.	219	48	18
Nuts.....	155	34	6
Small fruits.....	221	100	82
Strawberries	215	65	145
			11

Amongst small fruits, Gooseberries were a general and exceptional failure. The acreage under Fruit-culture is increasing year by year, notwithstanding the increasing importations of foreign fruit. As to the Potato crop, the reports are, on the whole, satisfactory; early sorts have yielded good crops, and late ones have not promised so well for many years past. The total acreage in Great Britain devoted to potato-culture, which has been reduced, owing to the defective crops of late years, was, in 1877, 512,471 acres, showing an increase of 7,383 acres over 1876, though still below those of any year since 1867. In Ireland there has been a still greater decline. But seeing how precarious is the crop, and how large is the importation from abroad, it is, perhaps, not desirable that the acreage should be greatly increased, more especially in Ireland, whose damp, warm climate is particularly favourable to the spread of the fatal fungus.

— THE MEETINGS of the ROYAL HORTICULTURAL SOCIETY naturally fall off in bulk with the wane of the exhibition season, but more or less of interest always attaches to them. At the meeting of July 24, Mr. Turner received a First-class Certificate for *H.P. Rose Harrison Weir*, noticed opposite, and Messrs. Veitch and Son exhibited the pretty yellow-flowered, dark-eyed *Torenia Bailloni*. On August 6, there was a fine display of *Tuberous Begonias*, among which one named *Mrs. Dr. Todd*, from Messrs. Laing and Co., a richly-coloured and finely-formed crimson, of good habit, received a First-class Certificate; as did one raised at Chiswick Garden, and called *Chiswick Blush*, a fine bluish-pink flower, of medium size, and very free-blooming. Messrs. Kelway and Son received First-class Certificates for three seedling *Gladioli*, named *Gorgonius*, rosy crimson; *Herois*, rosy pink; and *Telamon*, pink, shot with crimson. On August 20, the most notable subject, and that a gem of the first water, was *Cattleya Veitchiana*, from Messrs. Veitch and Sons, a hybrid between *Laelia purpurata* and *Cattleya Dowiana*, with large rosy-purple flowers, the large, broad wavy lip of the richest and deepest purple, with golden lines on the disk; the pseudo-bulbs bear one oblong leaf. This received a First-class Certificate, as did *Cattleya Mitchellii*, from Mr. Mitchell, gardener to Dr. Ainsworth, a purplish-green flower, with purple lip, bred between *C. quadricolor* and *Leopoldii*. A similar award went to *Croton Williamsii*, a broad-leaved

free-growing variety, with crimson veins, one of the best of the broad-leaved red-tinted sorts. *Dahlia Helen McGregor*, a deep bluish, with purple tips, and *Prince Bismarck*, a dark purple, were both shown by Mr. C. Turner, and certificated.

— THE PELARGONIUM SOCIETY held its fourth annual meeting on August 14 at Chiswick, when the usual formal business was transacted. Sundry modifications were made in the Prize Schedule for 1879, with the view of inducing wider competition amongst the members; and it was determined to award certificates of merit for deserving novelties produced at the shows. The balance-sheet presents a satisfactory view of the Society's financial position, showing a balance in hand of £64, after expending £78 in prizes, and about £8 in necessary expences. The following officers for the year ensuing were appointed:—Chairman, James McIntosh, Esq., Duneevan, Oatlands Park; Vice-Chairman, E. B. Foster, Esq., Clewer Manor, Windsor; Hon. Treasurer, Dr. Denny; Hon. Secretary, Mr. T. Moore, F.L.S.

— AMONG the NEW ROSES of 1878 are two of much promise, of which blooms have been sent to us by Mr. Turner, of Slough. One, named *Harrison Weir*, is of a remarkably stout, vigorous constitution, with bold and effective foliage, the leaflets cordate, acuminate, strongly serrated, and fully 2½ in. in breadth. The flowers are very large, deep, full, and symmetrical, of the cupped type, fully 4 in. across, with the larger petals 2½ in. in breadth, smooth on the edge, stout in texture, and of a rich velvety crimson, very bright and dazzling on the face of the petal, and with a slight purplish-rosy tinge on the reverse. The flowers are very sweet. Altogether it is a grand rose, with plenty of stuff of the first quality, so that it will probably take a high place in its class. *Dr. Sewell* is of a different style altogether, with more of the Xavier-Olibo type. Though strong-growing, it is less so than *Harrison Weir*. It has very thorny stems, with leaves of an ovate and taper-pointed form. The flowers are more open, with a few very large, broad, smooth outer petals, most of them emarginate, and gradually passing into smaller petals, with which the centre is filled out. The colour is a maroon-crimson, rich and satiny, irregularly breaking into bright crimson at the margin, and where the petals are involved so as to show their reverse sides, of a satiny tint of cardinal-red, paler than the face of the flower. Our English seedling Roses are taking a foremost position this season.

— MR. HEMSLEY contributes the following note from Prof. Koch, relating to the PERSIAN LILAC referred to at p. 127:—“At present we know six species of *Syringa* [*S. villosa*, Vahl, collected by Turczaninow, in North China, appears to be a distinct species; and *Ligustrina amurensis* cannot be separated generically from *Syringa*], whereof two, *S. vulgaris* and *S. Josikaea*, are indigenous to South-Eastern Europe; two, *S. chinensis* and *S. oblata*, to the Celestial Empire, and *S. Emodi* to the Himalayan Mountains; whereas the native country of *S. persica* is still uncertain. The last played an important part in Persia before the Rose took the first place. According to Mr. Wetzstein, who was Consul at Damascus for many years, it was first known to the Persians and Arabs about the year 1200, and it is very probable that it was intro-

duced from Persian gardens into Europe. That it is not a native of Persia is beyond doubt. Lerche, who died at St. Petersburg in 1780, found this species wild in the Eastern Caucasus, but certainly not indigenous. M. Decaisne believes that it will prove to be a native of South-Eastern Europe. [*S. persica* is cultivated in Kashmir and Lahore; and Brandis states that Dr. Stewart found the entire-leaved variety apparently wild near Kanigorum, the chief village of Waziristau, on the eastern flank of the Suliman range, at 8,000 feet.] *S. rothomagensis* is undoubtedly *S. chinensis* (the *S. dubia* of Persoon), and is a wild species, native of North China, as Decaisne has proved, by comparing Bunge's original specimen."

— **T**HE FERNS AT LAMBTON CASTLE are grown in a house that affords very much more light than the structures usually devoted to these plants, and are very thinly shaded. The result is that all are much more enduring than when grown in a darker situation, and the tints of the young fronds of some are almost indescribable—*Adiantum farleyense*, for instance. The fronds of this fern, as is well known, are influenced in colour by the light they receive, but in the plants here it existed to an extent we have not previously met with. The leaves up to being almost fully grown were of the most beautiful deep pinkish magenta, and many other sorts were alike influenced.

— **M**R. PEARSON, of Chilwell, has recently exhibited some seedlings from *PELARGONIUM ECHINATUM*, showing that the species has been broken into, and may yield varieties of increasing merit. His four seedlings were named Pixie, *Hybridum*, Ariel, and Beauty. They were free-flowering and neat-growing plants, with colours of the softest and loveliest tints of pink and rose. Ariel and Beauty are a decided advance upon anything that has been seen before from the same breed, and deserve the appreciation of the floral public.

— **T**HE pretty dwarf *DAPHNE BLAGAYANA*, a neat-growing, hardy, spring-flowering shrub, with abundant creamy-white flowers, in umbels $1\frac{1}{2}$ inch across, is said to be one of the most beautiful and rare plants of the Carniolian flora, and extremely fragrant. It grows there with *Erica carnea*, in calcareous soil, and is not only a good plant for forcing purposes, but will form a good low-growing hardy shrub for calcareous rocks.

— **T**HE beautiful *PINGUICULA VALLISNERIÆFOLIA* has been recently figured in the *Garden*. It differs from others in its clustered habit of growth, several crowns being sometimes densely massed together in one clump. The leaves are yellowish-green, and almost pellucid, linear or linear-oblong, undulated, and towards the end of the season become much elongated, not unfrequently measuring from 4 to 7 in. long. The flowers, which are large, are of a soft purple or lilac-purple, with large white or pale centres, the lobes more spreading than in *P. grandiflora*. Dripping fissures and ledges of calcareous rocks (frequently in tufa) suit it perfectly. It requires very free drainage, continuous moisture, and a very humid atmosphere. It comes from the lofty mountains of Spain.

— **I**N order to FLOWER THE AMARYLLIS WELL, Mr. Douglas recommends the use of small

pots—a 48 for medium bulbs, and a 32 for the largest. The soil should be good turfy clayey loam, a small portion of leaf-mould and rotted manure, with a dash of sharp sand. Two-thirds of the bulb should be above ground, and the compost must be pressed firmly round its base. The bulbs should be potted when they are at rest. When the plants have done flowering, they should be placed in a warm house until growth is completed, then gradually inured to cooler treatment; and when the bulbs are ripe, water must be entirely withheld.

— **A**t a recent meeting of the Linnæan Society, Mr. J. R. Jackson exhibited specimens of *YUCCA BACCATA*, of Torrey, consisting of fruits, leaves, and portions of the stem, the latter being used as a substitute for soap. This plant extends from South Colorado far into Mexico; and while northwards it is acaulescent, southwards it develops a trunk ten feet high. The fruit, a dark-purple berry, is preserved and eaten as winter provision, and the plant is commonly known as the Rocky Mountain Banana.

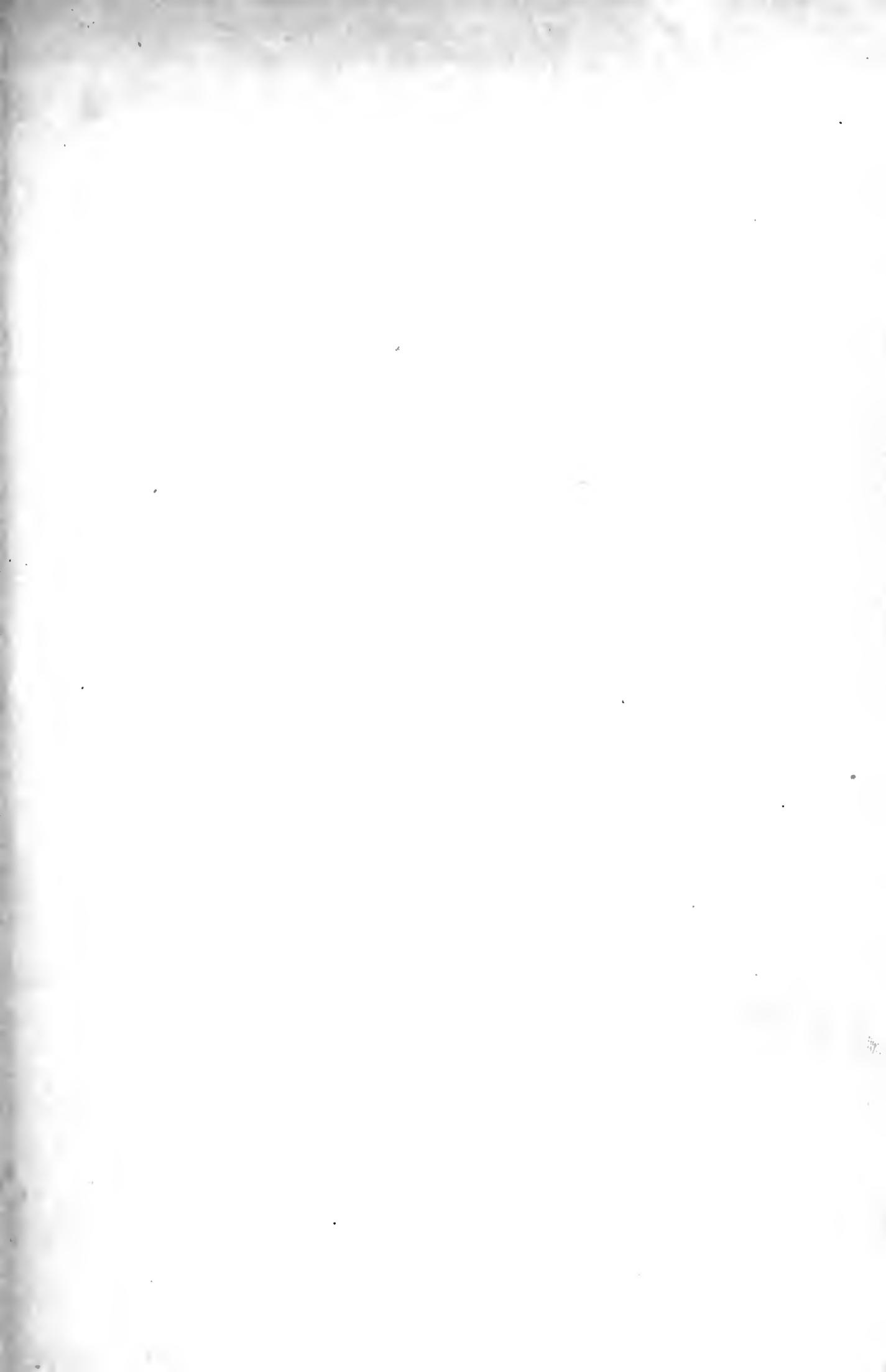
Obituary.

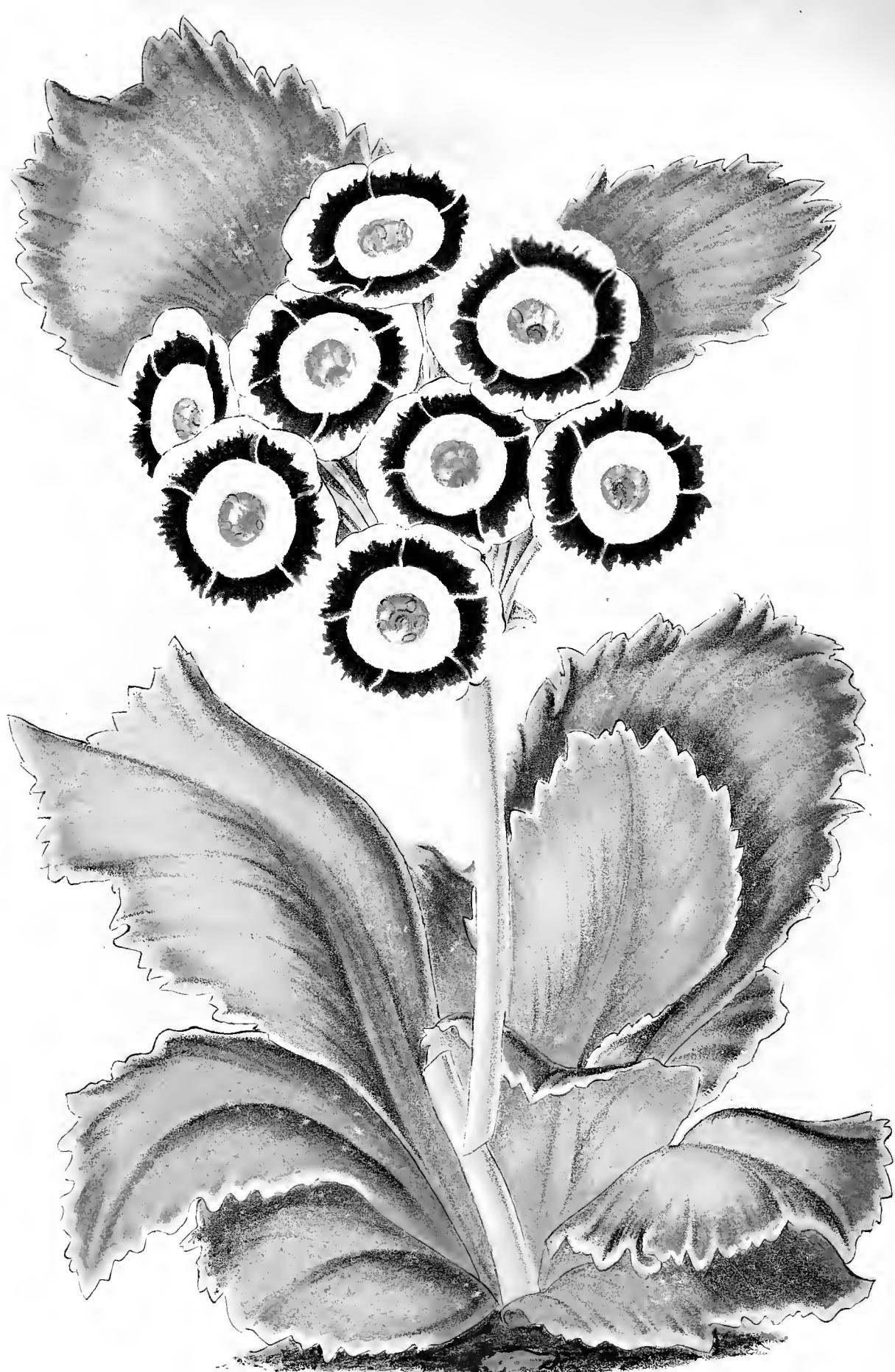
— **M**. A. THOZET died on June 1, at Rockhampton, Queensland. He was one of the most earnest and indefatigable practical naturalists in Australia, and his efforts in the introduction of useful plants to the colony in which he resided were worthy of all praise.

— **M**. BARTHÉLEMY DU MORTIER, Count of the Holy Roman Empire, Minister of State, died on July 9, at Tournai, in his 82nd year. M. Du Mortier was the leading botanist of Belgium, and though of late years better known as a politician than a botanist, he was enabled as a Minister to do excellent service in promoting the organisation of the Botanic Garden at Brussels, with its herbaria, museums, and library.

— **M**. JAMES FLEMING, the well-known seedsman, of New York, died on July 10, at the age of 45. He was an excellent type of a Scotch gardener—an educated, intelligent man, thoroughly versed in all the branches of horticulture, and besides, an excellent botanist. Open-handed, open-hearted, genial, and hearty always, he will long be remembered by scores of poor fellows into whose plodding lives he threw many a gleam of sunshine.

— **M**. ROBERT SIM died at Foot's Cray on August 3. He was born at Bellhelvie, near Aberdeen, on August 26, 1791, and consequently had nearly completed his 87th year. After being educated in Aberdeen, he found employment in the nurseries of Messrs. Reid and Son, of that city, and subsequently for a time at Slains, Methven and Wemyss Castles, Donibristle, and Messrs. Dicksons and Co.'s Edinburgh Nurseries, whence in 1814 he turned his face Southwards. At Messrs. Cormack and Co.'s nurseries, at New Cross, Mr. Sinclair found in him a willing pupil in the study of our native and other forage grasses. After serving the late J. Berens, Sen., Esq., at Kevington, for several years, he established, in 1830, a nursery at Foot's Cray, which has since become famous for its imimitable trade collection of both British and foreign ferns.





C.T.Rosenberg, del.

Chromo Stroobant, Ghent.

Auricula Frank Simonite

AURICULA FRANK SIMONITE.

[PLATE 476.]

THE edged Auricula, of which a specimen is given here, is not an easy subject for a coloured portrait, especially because the exquisitely-powdered surface of the edge in white and grey varieties, and the velvety texture of the ground-colours in them all, can only be approximately given in a picture; while also the precise tints of the ground-colours, and the greens of the green edges are difficult to secure through the different processes under which the printed coloured plate must pass.

In his Auricula the florist is literally “particular to a shade,” for the slightest variation in the coloured and alterable divisions of the flower, in either proportion or colouring, is sufficient in his sight to constitute a difference great enough for a distinction. Wherefore, it as little follows that any slack representation of an “edge,” “body-colour,” “paste,” and “tube” should be the likeness of any particular Auricula, as that any sort of arrangement of eyes, nose, and mouth one meets with in a face, should form the features of some dear friend.

It will, I am sure, not be taken amiss, after what I have said, if I remark that in the imitable living freshness of the original of the flower figured here, there is a bluer touch in the ground-colour. Indeed, a large part of the charm and value of this new variety, lies in the beauty and novelty of this very blueness. It is a step nearer to a lovely, and we will hope not far distant class, one of white edges with blue ground-colours; and a still better approach than this came among the same lot of seedlings, but it only lived to be named and once seen at the Crystal Palace Show of 1877.

FRANK SIMONITE is a decidedly good Auricula. The tube, indeed, is not the bright lemon or orange-gold that we so prize; but still there is a tint of cowslip in the colour of

it, and at any rate, it does not prematurely fade into a watery green. It is really very good, considering the fact that hitherto all Auriculas, whether edged or selfs, that have shades of blue in them, have shown an utter disregard for a yellow or golden tube. Such would be a lovely addition; and though we have not got it yet, still we do not rest without it. In Frank Simonite the paste is broad, brilliant, and circular, and of the purest white, although for artistic reasons, shadows rest on it in the picture. The body-colour is a rich, velvety, deep violet-blue, bold and well-proportioned, and the edge is a true, pure, lasting white of great density and of proper breadth. Pip of good substance with rounded petal, flattening kindly and well. Plant a very free bloomer, and of very handsome half-mealed habit. Foliage plentiful, broad, and deeply notched.

Edged Auriculas, with any other ground-colour than black, may even yet, strangely enough, meet with some blind disfavour, as they have done with growers in the North of England aforetime. No doubt a black-ground Auricula, so poorly coloured, or so far out of condition as to have several weak blue or brownish shades in a colouring which, in its perfection, is black, would rightly enough be complained of, and called “chaney,” as the technical term of reproach is; but no flower with a rich, pure, steadfast violet-blue, chocolate, or red ground-colour can be anything than a welcome and beautiful acquisition when the other qualities of that ground-colour are good, and the flower brilliant in its other points. Frank Simonite is a seedling raised a few years ago, by Mr. Benjamin Simonite, of Sheffield. There is no record of its parentage, but it was not from mere chance seed.—F. D. HORNER, *Kirkby Malzeard, Ripon.*

POT HYACINTHS

FOR EXHIBITION.

AS an Exhibition spring flower there is none so popular as the Hyacinth. In London the leading Societies vie with each other to produce the best display about the end of March; and this, being the opening show of the year, is always looked forward to with pleasure. The large provincial towns, as

Manchester and others, are also becoming alive to the value of Hyacinth shows, and at these it often happens that amateurs compete more numerously than they do at the metropolitan shows. Having been a successful exhibitor for several years, I propose to offer an explanation of my practice in growing the Hyacinth for

exhibition,—and I may here note that the same method of culture should be followed to obtain the best results, even if the plants are not intended for exhibition.

The first step is the preparation of the soil. I prepare the compost in July or August, and one of the trade growers told me that he did so in May. I chop up two barrow-loads of turf-loam, and add to it one load of leaf-mould, one of sand, and one of rotten cow-manure, the ingredients being well mixed together. This compost is put into a dry place until it is time to use it. The next consideration is to obtain the bulbs, of which good sorts can be had at from 3s. to 30s. per dozen, or, if newer varieties, at a higher price still. Those unacquainted with the flower would do best to purchase from a respectable nurseryman, pay so much per dozen, and leave the matter in his hands. A selection of very good sorts can be purchased at 12s. per dozen, and if a root or two of newer sorts should be wished for, they could be bought separately.

When the bulbs are received, I take them out of the bag or box, and lay each root separately in a flat box, only one layer deep, and just cover them with the Buckwheat chaff, and place them in an airy room. The time of potting and the size of the pots must both be regulated by the date at which the flowers are wanted. To flower in January and February, the bulbs should be potted early in September, those for succession being planted towards the end of that month and early in October. Those intended for exhibition I pot about the last week in October. For the early flowering roots the pots should be $4\frac{1}{2}$ in. to 5 in. diameter inside measure, and those for exhibition should be 6 in.

The compost at the time of potting should be rather dry, never wet. I do not put in very much drainage: only one large bit of potsherd over the bottom hole, and a few small pieces on that; but the drainage should be kept free by having some of the fibre from the turf-loam placed over it. Press the soil in moderately firm, and make a hole large enough for the bulb with the fingers. It is a common but mistaken practice to fill the pot with mould, and then to press the bulb down on it, for this makes the compost firmest just under the bulb, and it is quite likely that

it may be thrown out of the soil when the roots are emitted. I make the soil firmer round the bulb than it is underneath it. When the operation is finished, the top of the bulb should just show above the soil. The pots should be placed out-of-doors in an open place on a hard bottom of ashes, and be covered to the depth of 2 in. or 3 in. over the surface of the pots with cocoanut fibre refuse, spent tan, or leaf-mould. It is a great mistake to place the pots under the stage of a greenhouse, as is sometimes done; the water running down from above soaks some, while others suffer for want of it; out-of-doors they require no attention, and cause no anxiety.

When it is intended to force as early as possible, the pots must be removed into the forcing-house as soon as they have formed roots. The pots should be within a foot or two of the glass lights, if possible. The plants must be forced very slowly at first, and will not require much water; but when it is seen that rapid growth has commenced, more moisture will be necessary. The night temperature may then be increased to 60° or 65° . The plants should be removed into a cooler place as soon as the first bells are expanded.

Our exhibition Hyacinths are removed to the house as soon as the crowns have started about 1 in.; this will generally be about the first or second week in January. I remove them to a cold frame where the lights can be kept rather close for a few days, and be covered with a mat to exclude light. It is just as well to inure them gradually to the light, and if I have to place them on shelves in any of the vineeries or in the greenhouse, I place a small pot over the crown for a day or two, as it is as well to keep the plants very quiet at first; but after the leaves have become green, air is admitted freely night and day.

If it should become necessary to force in order to get spikes open by a certain date, it is better to do this when they are further advanced. All through the period of growth the plants should be kept close to the glass, and air should be admitted as freely as possible. Water must also be applied freely, giving manure-water with every alternate watering. I have said water freely, but it is proper to add, with judgment. If the Hyacinth will grow in glasses of water, it will not in soil which is constantly saturated.

The varieties I grow for exhibition are these:—*Single red*: Cavaignac, Fabiola, Gigantea, Macaulay, Solfaterre, Von Schiller, Vuurbaak. *Single blue*: Baron van Tuyl, Blondin, Charles Dickens, General Havelock, Grand Lilas, King of the Blues, Lord Derby, Marie, Mimosa. *Single white*: Grandeur

à Merveille, La Grandesse, Mont Blanc. *Single yellow*: Ida, Bird of Paradise. *Single lilac or mauve*: Czar Peter, De Candolle, Haydn, Sir Henry Havelock. *Double red*: Koh-i-noor, Lord Wellington. *Double blue*: Laurens Koster and Van Speyk. This list contains very few double varieties; Koh-i-noor is semi-double only. The doubles have not such compact symmetrieal spikes as the single varieties, and although I grow a few, they are very seldom exhibited, but there are a few of the doubles very useful for decorative purposes at home. The best besides those named are:—*Red*: Noble par Mérite, Princess Louise, Regina Victoria. *White*: Anna Maria, La Tour d'Auvergne, Prince of Waterloo, Triomphe Blandina. *Blue*: Bloksberg, Garrick, Louis Philippe.—J. DOUGLAS, *Loxford Hall, Ilford*.

ON RIPENING PEARS.*

WHILE the cultivation of the Pear in favoured localities is easier than that of Apples, the proper ripening and marketing of the Pear are attended with more difficulty. Indeed, there are but few people who know how to handle Pears so as to ripen them in a way to obtain their best colour and flavour, and to bring them to maturity at just the most desirable time; or, having satisfactorily ripened them, they put them into market in a condition to obtain the best returns. A good Pear may be ripened so as to be solid, juicy, and sweet, with a good rich colour to its skin; or it may be made corky, insipid, and rotten at the core; or again, it may be shrivelled, sour, and unattractive; and these different conditions may all be obtained the same season, and from fruit grown on the same tree.

This being the ease, the importance of proper ripening will readily be seen. While different varieties may require slightly different treatment, owing to their individual characteristics and the season, yet the same general rules will apply to all. I believe that nearly all Pear-growers agree that all kinds of Pears should be picked while green and ripened in the house, but at just what time they should be picked, and just how they should be handled to ripen them, are subjects on which there is much diversity of opinion. But in order that we may intelligently understand this subject, let us see what this ripening process is, and what

are the conditions essential to its most perfect development. Chemists tell us that about fourteen per cent. of the Pear is soluble matter, and that it is composed of a trace of free acid and twenty-three hundredths of one per cent. of albuminoids, and that the rest of the soluble matter is made up of sugar, starch, cellulose, dextrine, and other farinaceous substances. Now this ripening process is a saccharine fermentation, and is analogous to the malting of brewers' grains. In malting, diastase is formed by a change of albumen in the grain, and this diastase acts as a ferment on the starch, gum, and cellulose of the barley, and changes a portion of these substances to glucose or grape-sugar. In the ripening of Pears, the vegetable acids which they contain act on the farinaceous substances of which the Pear is so largely composed, and if the fruit is removed from the trees and kept at a temperature which favours this saccharine fermentation, its cellular tissues will be broken down, its water and aroma set free, and glucose or grape-sugar will be formed from its farinaceous substances, giving us a sweet, juicy, high-flavoured Pear. Now, what we want in ripening Pears is to obtain the most perfect development of this fermentative process, but at the same to avoid any vinous or destructive fermentation, which would destroy the sugar or induce decay. We also want to have the fruit as large and plump as possible, avoiding any wilted or shrivelled appearance, and to obtain its best colour—as much of bright straw-colour, with a tinge of red, as possible. Now, how shall we make a practical application of these principles so as to obtain the desired results?

Summer and early-fall Pears should be picked just before they begin to turn, and when they are nearly grown, should be handled with great care to avoid bruising, and should be placed in barrels or boxes in a room or cellar, where the temperature may be kept at about 70°, and a moderate degree of moisture maintained. A very dry air is not so good, as it absorbs the moisture and aroma from the fruit, injures its flavour, and causes it to wilt and shrivel up. After being kept in such a room a few days, they will begin to turn, and some of them will mellow; then they should be sold or used, before they soften. The boxes,

* From a Prize Essay, read at a Meeting of the Massachusetts' Horticultural Society, January 12, 1878.

barrels, or whatever they may be placed in, should be covered with papers, to exclude the light and prevent the escape of the aroma.

Care should also be exercised to avoid placing them so deep in barrels or heaps as to allow of the generation of much internal heat, which might carry the fermentation too high, and destroy the fruit. When one has the facilities for doing so, he may improve the colour, and possibly the flavour, by spreading them on shelves between old newspapers. This ripening between papers, on shelves in a room where an even temperature, and the right degree of moisture can be maintained, seems to give the most satisfactory results of any method with which I am acquainted. The manner in which early Pears thus treated will colour is truly wonderful.

It is often desirable to lengthen the season of the ripening of some of our early Pears; especially is this the case where the Bartlett [Williams's Bon Chrétien], which seems to be the standard summer Pear for marketing purposes, is the main crop. This may be readily done, by making two or more pickings from each tree, with several weeks between the first and the last picking. The largest and ripest should be picked first, as soon as the windfalls will ripen and be good; and the smaller and greener ones should be left, to receive the additional sap which the earlier ones would have appropriated. Sometimes one side of a tree will be much earlier than the other, in which case the earliest side should be picked first. This early picking should be ripened off at once by the process already described, only observing that the greener the fruit the higher temperature it will require, and a more humid atmosphere will be needed to prevent their shrivelling.

Having ripened and disposed of this early crop, another picking should be made, and served in a similar way, leaving the greenest on the trees as long as they will keep green. Mulching, and where practicable, watering will help to prolong their season, by keeping up the vigour of the trees. Most summer and fall pears may be kept best by leaving them on the trees as long as they will hang and keep green. I have tried keeping them on ice, but while it checked their ripening, it induced decay, and destroyed the life of the pear, if I may be

allowed such an expression. Certainly, keeping pears a long time at a low temperature injures their ripening properties. By making early and late pickings as described, we may obtain a larger crop from each tree, and sell it at better prices, because we can put part of them into market early, before the bulk of the crop is received, and we can keep a part of the crop until quite late, and sell when the rush is over, thereby obtaining better prices. Splendid specimens for exhibition purposes may be obtained, by leaving a few of the largest and fairest specimens on the tree, and picking all others early; then, when fully grown, pick and ripen between papers or blankets, as the weather and degree of ripeness they have attained on the tree may require.

A great many people pick their Pears too green. Such Pears are small, and they will shrivel unless ripened with great care, and they lack the body and flavour of those which are fully grown. Late fall and winter Pears should be left on the trees until hard frosts and windy weather cause them to drop, then they should be carefully picked, sorted, and packed in clean barrels, and stored where the temperature can be kept as near 40° as possible until the season of ripening has arrived, when they should be placed between woollen blankets in a room where an even temperature of as near 70° as possible can be maintained, and they will soon ripen like summer Pears.

I believe the cause of the failure of so many people to satisfactorily ripen winter pears, is that the fruit is kept and ripened at so low a temperature that the tendency to saccharine fermentation is destroyed, instead of being favoured, and consequently such pears are dry and tasteless.

The *summa summarum* of the whole matter is: If we wish to keep pears and retard their ripening, we must keep them in a still dry air, at a temperature as near 40° as it is possible. But when it is desirable to ripen them, put them in a dark warm place, with a moderate degree of moisture in the air, and keep them covered, to exclude the light and retain the heat and gases which are generated. In warm weather use papers for a covering, and in cold weather use woollen blankets.—J. W. PIERCE, *West Millbury, Mass.*

PENTSTEMON CLEVELANDI.

 THIS very pretty and distinct Pentstemon is a native of Lower California, and has been quite recently introduced. It appears to have first flowered in this country, in the garden of A. O. Walker, Colwyn Bay, North Wales, where it continued in flower from June to December.

The garden race of Pentstemons has been bred chiefly from *P. Hartwegii*, crossed with other kinds, and the varieties, though much varied in size and colour, have yet a general resemblance in their flowers to the plant just named. The genus, however, contains numer-

ous species of quite a dissimilar character, all beautiful in their way, and all hardy, or just verging upon hardiness, and probably failing, when they do fail, more from the dampness than the coldness of our climate. In a tolerably free, well-drained soil, not liable



to be water-logged, they will survive our milder winters, but they are fully deserving of the shelter accorded to half-hardy plants, and with this help they may all be kept secure. Most of them are increased in summer readily by cut-

tings, which, of course, is a necessary mode of propagating the garden varieties, equally applicable to such kinds as *P. campanulatus*; while most of the sorts bear seed freely, from which the species themselves may be

reproduced, and from whence, in the case of garden varieties, new sorts must be sought. Some of these, less shrubby than the rest, may be increased by division, but seedlings are generally preferable, when they can be obtained. *P. speciosus*, *cyananthus*, *Gordoni*, *Jaffrayanus*, and *humilis* are handsome plants, with azure-blue flowers. *P. barbatus*, *Torreyi*, and *Murrayanus* are fine scarlet-flowered sorts, the latter remarkable for its connate glaucous leaves. *P. digitalis* and *Cobaea* have handsome light-coloured flowers, and *P. Palmeri* and *Wrightii* have very showy flowers, of a rosy tint. Of most of the species, it might be said that they are showy and attractive subjects, while of scarcely any could it be truly said that they are unornamental. *P. cordifolius* and *antirrhinoides* are two very pretty, neat-habited, fruticose species, the former with scarlet, the latter with yellow flowers.

P. Clevelandi, represented in the accompanying-

ing engraving (from the *Gardeners' Chronicle*), is of the same general habit as the foregoing—that is, a perennial, with leafy stem, bearing a freely-branched, paniculate inflorescence. Its stem-leaves are stalkless, ovate-lanceolate in form and repandly toothed, whilst those borne amongst the flowers (floral-leaves) are very small. The flowers themselves are deep blood-red, displayed on a thyrsoid panicle, and are very numerous, set on by short pedicels, and having short ealyx-lobes, and tubular funnel-shaped corollas, the tube of which is about an inch in length, and the limb consisting of five short rounded spreading lobes. It was described by Dr. Asa Gray in the *Proceedings of the American Academy of Sciences* (1876, vol. xi., p. 94). As already noted, it commences to flower in the height of summer, and continues flowering throughout the autumn. It is well worthy a place amongst our choice hardy or half-hardy flowers.—T. MOORE.

THE REV. G. JEANS ON THE PHILOSOPHY OF FLORISTS' FLOWERS.

No. VII.

"To conclude the subject of Form or Shape, we come, lastly, to treat of it as subservient to an ulterior purpose—to set off to greater advantage some other means of beauty. This is a large rather than a difficult branch, requiring more a copious induction of particulars, than the announcing and establishment of any fresh general principles. Whatever can be correctly said upon the subject will be found to depend on some of those principles that have been laid down before. I shall not therefore here attempt any such extended induction, but confine my observations within as narrow a space as will suffice to explain the mode of their application.

"With respect to the general forms of flowers, different shapes are best suited to different purposes. The cup-edged or rose-leaved petal, elegant as it is, is unsuited to shew the colours of the Polyanthus, the Auricula, or the disked Cineraria, though it enhances the beauty of the Carnation, the Picotee, and the Pink. The flat surface will not effectively display the markings of such as are equally painted on both surfaces, as the Tulip; nor will the hollow cup, so admired in that flower, suffice to bring the single Poppy or Peony, with all its glowing colours, into favour with the fastidious. Regard must be had to the mode of colour, before a decision can be pronounced on the form most

available for its display. The most perfect is when the flower is calculated to produce both a general effect as a whole, and likewise to attract observation to its several parts. In this respect, I imagine, the first place must be conceded, without a rival, to the Tulip, and the second probably to the Orchids. Nor does this prejudice the popular claim for the Rose, a claim in which I cordially join, to be the queen of flowers. The Rose has too many and too solid attractions to fear giving other flowers their due meed of superiority in particular points over itself. But the Rose is essentially a self-coloured flower, though there are some departures from this rule, and for the most part with little improvement. And it is rather an encomium upon, than a disparagement of, its merits, that having to contend at a disadvantage, it wins for itself the highest place in our esteem. The Auricula, the Pelargonium, and perhaps the Carnation, present more of a picture,* and have more properties or points that conduce to excellence than the Rose.

"Were there any flower the colours of which are disposed with as minute a reference to mutual position as those of a picture, no doubt a perfectly flat surface would be best. And although making no such pretensions to accuracy, the Auricula is impatient of any other form, because the relative proportions of its primary subdivisions, which proportions are

* The Pansy does; but I have no wish to expose a truth to ridicule, by appearing to compare the Pansy to the Rose.

its principal characteristic, are injured or lost without it. The Polyanthus and the party-coloured varieties of Cineraria would suffer in the same way, but in a less degree. The colours of flowers, however, are beautiful by a higher than the painter's rule, and when in their utmost regularity disdain the servile trammels of man's imitative art. Themselves and their purposes are alike original, and not by copy; and display their Maker's praise as much in what, to a superficial observer, would appear their imperfections, as in what are called their highest perfections. And therefore the forms on which their beauties can be inscribed with effect are not so limited.

"I have before observed that, theoretically, a globe would be in itself the most perfect form, considered simply as a figure; and the same will apply, to a considerable extent, as a surface for the reflection of colour. Yet if a globe were formed in any other manner than by the convex edges of many petals, as in some of the Ranunculaceæ or the Amaranthus, it would not answer our ideas of a flower, the essence of which is expansion or opening-out, which, indeed, is the meaning of the word 'petal.' It would, therefore, be out of the question for single flowers; and in fact, the casual arching-over of its petals into the resemblance of a globe, which takes place in some long-cupped varieties of the Tulip, is a great dis-sight.

"The section of a globe, as in a well-shaped Tulip, offers the next greatest amount of advantages; and one of the charms of that magnificent flower is owing to its mathematically perfect form. And in the recent [1849] controversy about its exact proportions, I have no doubt of all eventually agreeing in the opinion of those who assert that it ought to be *half* a globe; because if it be less, in the same degree that it falls short of a hemisphere does it lose the globular, which is its higher character, and approach the idea of a plane surface with cupped edges—a form actually assumed by some Tulips in the middle of a hot day, after they have been some time in flower; and if it be greater, in the same degree that it exceeds a hemisphere does it fall short of its just expansion, both in appearance and effect. For the half of a hollow globe of the size of a Tulip presents a sufficiently level surface for the most delicate floral markings to be perceived; and in the case of this flower, which is painted on each surface, enables both the inner and the outer to be seen at the same time. Hence it is the most effective form of any.

"Another way in which an adventitious magnitude is produced is, when the lines both of form and colour are parallel, instead of crossing each other, and both run outwards (that is, towards infinity) without a stop. This is well illustrated in the singular difference of effect produced by the three florists' species of

Dianthus,—the Carnation, Picotee, and Pink. Whichever may be the favourite, none, I think, will deny that all the grandeur belongs to the Carnation. The reason of this, though not obvious, is quite intelligible, and arises (to compare small things with great) from the same difference of principle that separates Gothic architecture from Classical—the principle of perpendicular and of horizontal lines. The stripes of the Carnation are disposed longitudinally, the same way with the length of the petal, and are not terminated by any visible end. They run out, as it were, and lose themselves in space. The lacing on the petal of a Picotee or a Pink is stopped by its adjoining one, and it is transverse to the length of the petal; it forms a visible termination both to the flower and to its colours. Hence a Pink, often as large as the largest Carnation, will necessarily appear small and confined in comparison.

"The restricting mode of colour, however, has its advantages, as well as its disadvantages. For the Carnation, from its greater variety, both in forms and colours, ought to be the prettiest of the three; in which quality I believe most of my fair readers would be disposed to place it, where I should myself, as the last, instead of the first. There is a sort of masculine character imparted to it by its concentrated efforts towards magnitude, which impairs its delicacy. It is this direction of the lines of colour in the Picotee which make what are called 'bars' a disfigurement, a sentence which many denounce as capricious and unreasonable, not considering that they are transverse to the lines of colour, and that lines at right angles are necessarily harsh.

"The ordinary mode in which the petals of a modern Pelargonium are disposed, give an instance of another effect imparted to a system of colours by the shape of the ground on which they are laid. The two larger or upper are sometimes called back petals, not because they really lie farther back than the three lower ones, but because these latter are commonly thrown straight forwards, while the others have a greater tendency to the other direction and to reflex, whereby the face of the flower is thrown upwards and forwards, and a character of forwardness or boldness imparted to it, the same as there is to the human countenance by the same position; and what is called a bold flower, is one in which this disposal of the petals is more than ordinarily conspicuous.

"When colour is only effective in the mass, the shape most adapted for shewing it to advantage will depend partly on the natural form of the flower, partly, as before observed, on its size, and partly on the brilliance, or otherwise, of its hue, or, which comes to the same thing, whether colour or shape take the precedence.

"In the subordinate parts of a flower, as the

single petal, for instance, the imbricated form, so called from its resemblance to a drain-tile, takes off from the stiff formality of the Camellia; and the quilled petal gives liveliness and grace to the Chrysanthemum. The same form detracts from the appearance of the Aster, because its petals are so narrow, that they cannot afford the shrinking of size it occasions.

“Observations of this kind may and ought to be extended to considerable minuteness of detail, but as they are only applications of what has gone before, they will not require me to draw at greater length upon the kind patience of your readers.

“The other origin of beauty is *Colour*, the most obvious source of our varied, pleasurable impressions from the flower-garden, and on which therefore the reader may not unreasonably fear a discussion as long as that which has gone before. Happily, however, in this he will be mistaken, for the philosophic or constant elements of its effectiveness, to which I am here confined, are few; nor is it intended fully to discuss these, for a reason that will be afterwards adverted to. The observations I have to offer will class themselves under colours in general as such, and on the juxtaposition of two or more on the same grounds.

“1. With regard to colours in general, the preference of one before another arises, for the most part, from causes of which I do not treat, for each has, intrinsically, an equal right to admiration. Much belongs to individual taste, much to accidental circumstance, such as rarity, and these, as not reducible to rule, are beside the present purpose. A blue Dahlia, or a scarlet Pelargonium, may be worth a hundred guineas; but the value is accidental, not essential, and belongs to the philosophy, not of the flower, but of *man*. There are, however, a few intrinsic qualities, according to which colour seems necessarily effective, or the contrary. I shall mention but two, applicable equally whether the flower in which they are found is self or party-coloured.

“The first is Brightness, by which I mean neither a higher nor a deeper tint, the value of which is purely conventional and a matter of taste, but the opposite to the flat and washy appearance often seen in petals of thin substance, as if it were fading, and somewhat similar to what in art would arise from a too thin coat of paint. Possibly it may sometimes be connected with the epidermis alone being the seat of colour, because, if you look closely into the bell of a good light-blue Hyacinth, the colour, however light, will appear to penetrate the entire fleshy substance of the petal, and will be as bright and lively as the deepest tint could be. All the rays of its colour are reflected back to the eye, and not absorbed and lost, as many of them are, in the dull, thin, and watery colour of some of the old (not

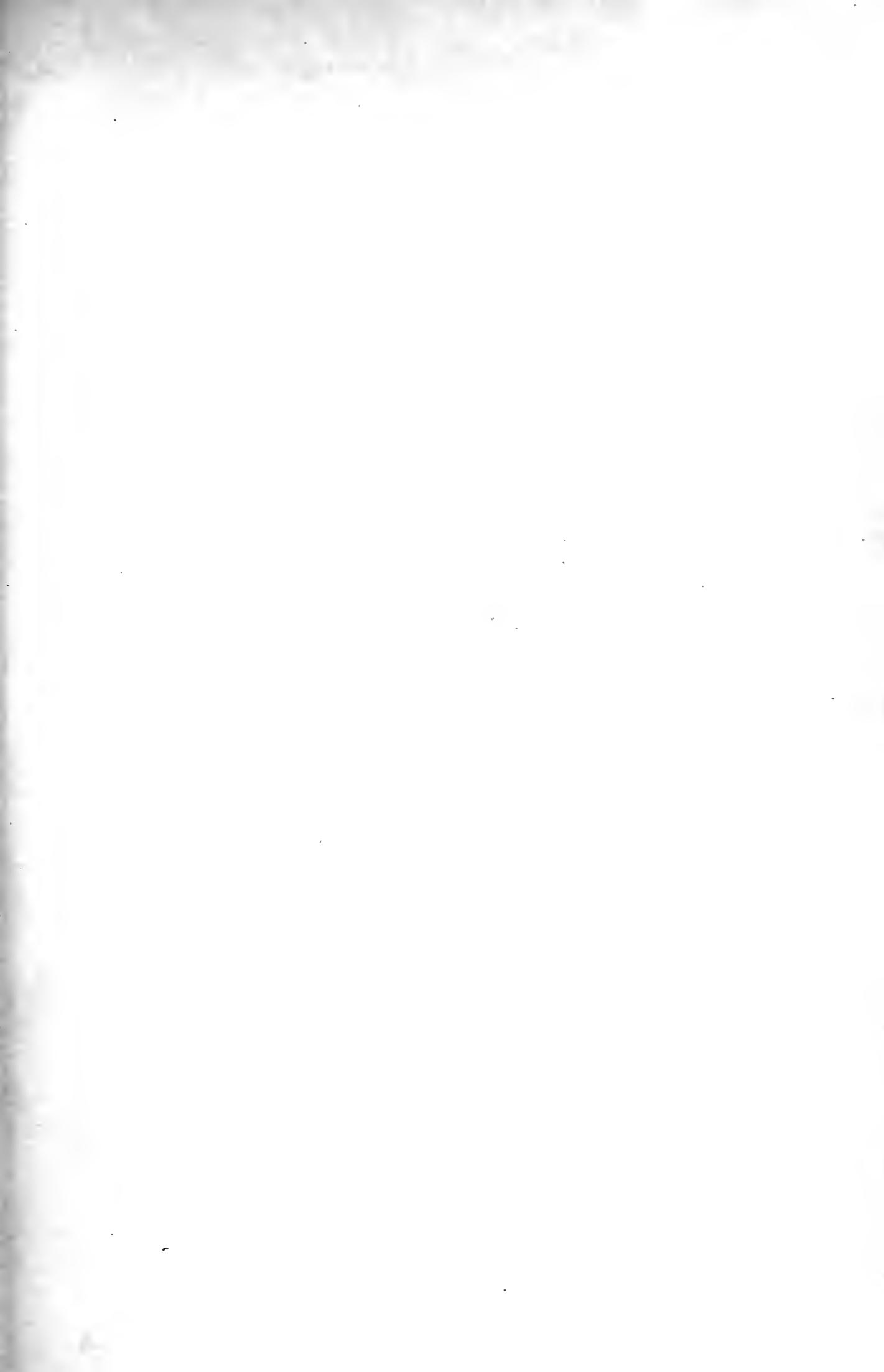
Chinese) Hollyhocks, of twenty years ago. Byblomen Tulips, when narrowly examined, are seldom entirely free from this fault.

“The other quality is Distinctness, by which term I mean, not the impossibility of mistaking at first sight whether the colour in question be a blue or a violet, a rose or a pink (for, on the contrary, I think such indescribable shades of colour as are best to be found in the Rose form one of the highest charms of that peerless monarch of the garden), but such an individual (may I use the word *idiosyncratic*?) distinctness, as when once well seen and felt will ensure its being distinguished from others. Without this, it would be equally impossible to discriminate between 2,000 varieties, and useless to cultivate them, for a colour that excites no corresponding and pleasurable idea is worthless. Yet colours of this objectionable and meaningless kind are not uncommon, and often partially intrude into some of our best varieties, as in the Catafalque Tulip, and others—as if for a stimulus to the raiser still to press on for something nearer his idea of perfection. Seedling or breeder Tulips often are of a hue that seems hardly to be classed as a colour, but rather as a negation of colour. ‘Foxy’ Auriculas and Polyanthus are of this class.—IOTA.”

PEACH PRUNING.

OME years ago—perhaps eighteen—a nobleman’s gardener, who had spent many years in France, Belgium, and Italy, gave me a very clear outline of the practice adopted by horticulturists in those countries. One thing of which I made a special note was the description of pruning Peach-trees, given on the system practised to a large extent in France. Straight rods were trained fan-shape as true as the rays of the sun, and the small growths of the current year, which were saved to supply the bearing-wood of the following season, were pruned, not as generally seen in this country, but cut short to within two or three inches of the tree. This is not the “spur” system—I do not object to that when properly carried out in the case of trees under glass—but simply short-pruning. By this mode, bearing-wood as firm as oak is secured, there is no waste of time laying-in young wood for no purpose, and the trees are always neat and free from confusion. I have practised this (perhaps in a modified form) for a number of years, and by it always secured abundance of fruit, and saved much labour.—T.

* Peculiar to its own composition.





The Peach Pear.

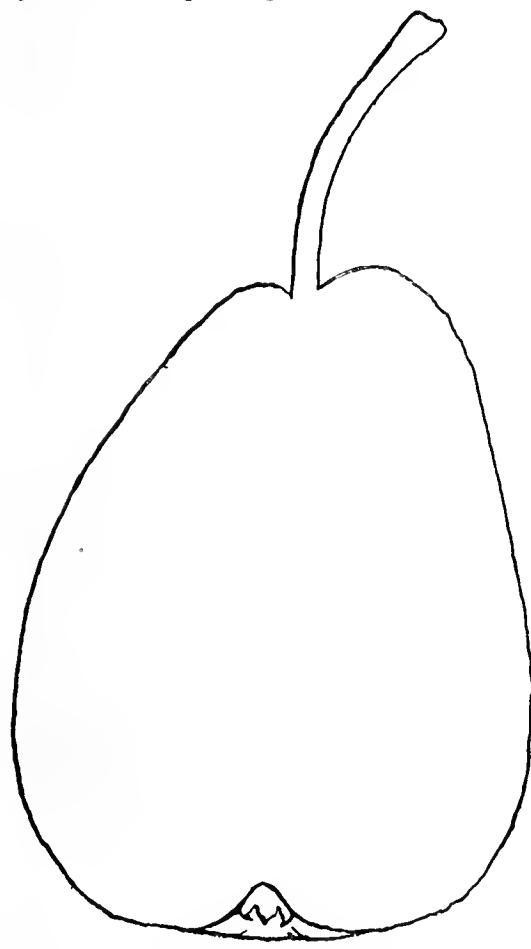
J. L. Macfarlane del.

P. De Pannemaeker, Chromolith. (Gand) Belgique.

THE PEACH PEAR.

[PLATE 477.]

GOOD early dessert Pears are very useful fruits. They come in at a time when the variety amongst choice table fruits is becoming somewhat diminished, and in themselves they offer a pleasant change, and prove very grateful and refreshing to the palate, especially in seasons when the temperature runs high. Hence we have sought opportunities from time to time to figure some of those early varieties which are but little known, though very well worth growing.



PEAR, AUGUSTE JURIE.

The PEACH PEAR, of which we now give an illustration of the true variety, is one of those which come into the above category, being not only comparatively early—beginning of September—but good. It will be remembered that some time since (FLORIST, 1877, 157, t. 447) we published, under this title, a figure of an early Pear, the name of which there was some reason to doubt, the variety having, by some means or other, got mixed up with Beurré Giffard. This fruit was produced in 1874. The tree has not borne again till the pre-

sent season, so that a further examination has not hitherto been possible; but now that the opportunity has occurred, it proves to be the variety named *Auguste Jurie*, and as the particular example represented in our former plate was somewhat exceptional as to outline, we add here a sectional figure, prepared in 1874, when our drawing was made, and which shows its more usual character. The name of the Pear published last year should therefore be changed to *Auguste Jurie*, as it is to this that the figure and description refers, and which, as we learn from Scott's *Orchardist*, was raised at Ecully in 1851. The variety is not mentioned in Hogg's *Fruit Manual* (1875), but has been figured and described in a recent number of the *Journal of Horticulture* (n. s., xxxv., 220), where its history is thus more fully stated:—

"This was raised from Beurré Giffard at the École d'Horticulture, Ecully, near Lyons, which is under the able direction of our friend M. Willermoz, and was named in honour of M. Auguste Jurie, President of the Horticultural Society of the Rhône. It first ripened fruit on August 11th, 1851, and was described by Abbé D. Dupuy, of Auch, in *L'Abbe Pomologique* for 1863. As described by Abbé Dupuy, it is bright red on the side next the sun, which is no doubt attributable to the climate of the South of France, for here we have found no trace of red upon it, though we have seen it with a slight orange tinge on the exposed side."

The specimens figured in both instances were grown in the garden of the Royal Horticultural Society at Chiswick. Those of the Peach Pear may be described as follows:—Shape pyriform. Stalk one inch long, inserted in the centre of the fruit in an uneven cavity. Eye large, open, inserted in a shallow basin. Skin rough, greenish-yellow, and covered with russet. Flesh greenish-yellow, firm, not melting, and rather coarse, but very sweet and agreeable, with the true pear flavour. In point of earliness, *Auguste Jurie* has the advantage, being ripe some two or three weeks before the Peach Pear. It ripens, in fact, about the middle of August, while the Peach Pear ripens early in September.—T. MOORE.

ROSE HEDGES.

EDGES of Roses of the Noisette section are, if properly managed, the most showy ornaments that can be grown, either in the pleasure or kitchen garden. At the present time, I have hedges of the *Fellenberg* and *Aimée Vibert* in the kitchen garden here, forming a mass of bloom, which will continue till

the frost cuts them down in November. Some *Gloire de Dijon* and *Vicomtesse de Cazes* Tea-Roses are mixed with them, and they give out a delicious scent in the evening. These hedges were planted to give shelter to the vegetables, and to separate different portions of the garden into divisions. On purpose to get a good stock of plants for these hedges, I put cuttings in in September and October, on a warm south border, with plenty of sand in the rows when the cuttings were planted. In the spring they began to make roots, and a great per-cent of the plants grew strong enough to plant in the hedges the next year. In planting the cuttings, it is safest to leave a bit of old wood at the base, as they then callus over sooner ready to emit roots. The Hybrid Perpetual Roses can likewise be raised in quantities, if the cuttings are planted in the autumn, and hedges can be formed of them the same as with Noisettes; they will furnish a great supply of leaves for drying or distilling. This year I had some of the finest blooms from a hedge of Hybrid Perpetuals on their own roots. Another great advantage is, that when a killing frost occurs, and the budded or grafted Roses are destroyed, the Roses on their own roots, if cut down by it, spring up again, to be as strong as ever.—WILLIAM TILLERY, *Welbeck*.

MARKET PLANTS.—VII.

THE LAURUSTINUS AND GHENT AZALEAS.

OME of our English plant-growers are found imitating the French and Belgian cultivators in the production of certain plants, the growth of which was considered for some time to be the reversion of Continental horticulturists. But that is no longer the case. English plant-growers mingle with their brethren of the craft in France and Belgium, who in their turn come to Old England in friendly intercourse, and thus they learn of each other, for so diffusive is the liking for plants, and the desire to improve the modes of and to excel in their culture, that a monopoly of the higher arts of gardening is no longer the exclusive possession of any one nationality. And though the acquirements of the gardening profession in one country might be lauded as far ahead of that of another country, depend upon it some other possession can be found to balance it, and equalise the weight of achievement.

The LAURUSTINUS, specimen plants of which

were once mainly sought abroad, is now being grown by some of our London market growers, so as to have the plants in flower from Christmas till February; and the plants I recently saw at the nurseries of Messrs. J. and J. Hayes, Nurserymen, Edmonton, decidedly proved that if the Continental growers are far ahead of the London men, their plants must be good indeed.

The history of a specimen Laurustinus may be stated in a few words. Cuttings are taken at the end of August or early in September, and they are put into a free sandy soil to root, either in a cold frame or under hand-glasses; there they remain till spring, by which time they have become nicely rooted, and are then planted out in beds in the open air, where they stand for two years. It will be here that the culture of the Laurustinus is a somewhat slow process, requiring considerable patience, and the exercise of much forethought. After the two years' probation in the beds have passed, they are potted into large or small 32-pots (for the market-growers appear to have two sizes), the largest plants, of course, going into the biggest pots, and the smallest into the smaller pots. As soon as the plants are potted, the pots are plunged in fine cinder-ashes up to their rims in large, broad, airy frames, over which coverings can be put if required—and these coverings are formed of "hurdles," overlaid with felt.

These potted plants of Laurustinus are mainly grown for the cut flowers they supply. As soon as they have well established themselves in 32-pots, they are shifted into large 24-sized pots, and in these the plants make fine heads, from 15 in. to 20 in. across. If the stems are cleared of shoots, the plants make good standards, and also come in useful for table purposes. The plants put into 24-pots in spring are again plunged in ashes for the summer, and here the buds are formed, and in the beginning of December they are taken into the forcing-house. The flowers are what the market-growers term "kind" to open—that is, they open readily; and in consequence of being forced into bloom under glass at the dead season of the year, are of a pure white colour, showing little or nothing of the fleshy tint peculiar to flowers that expand in the open air.

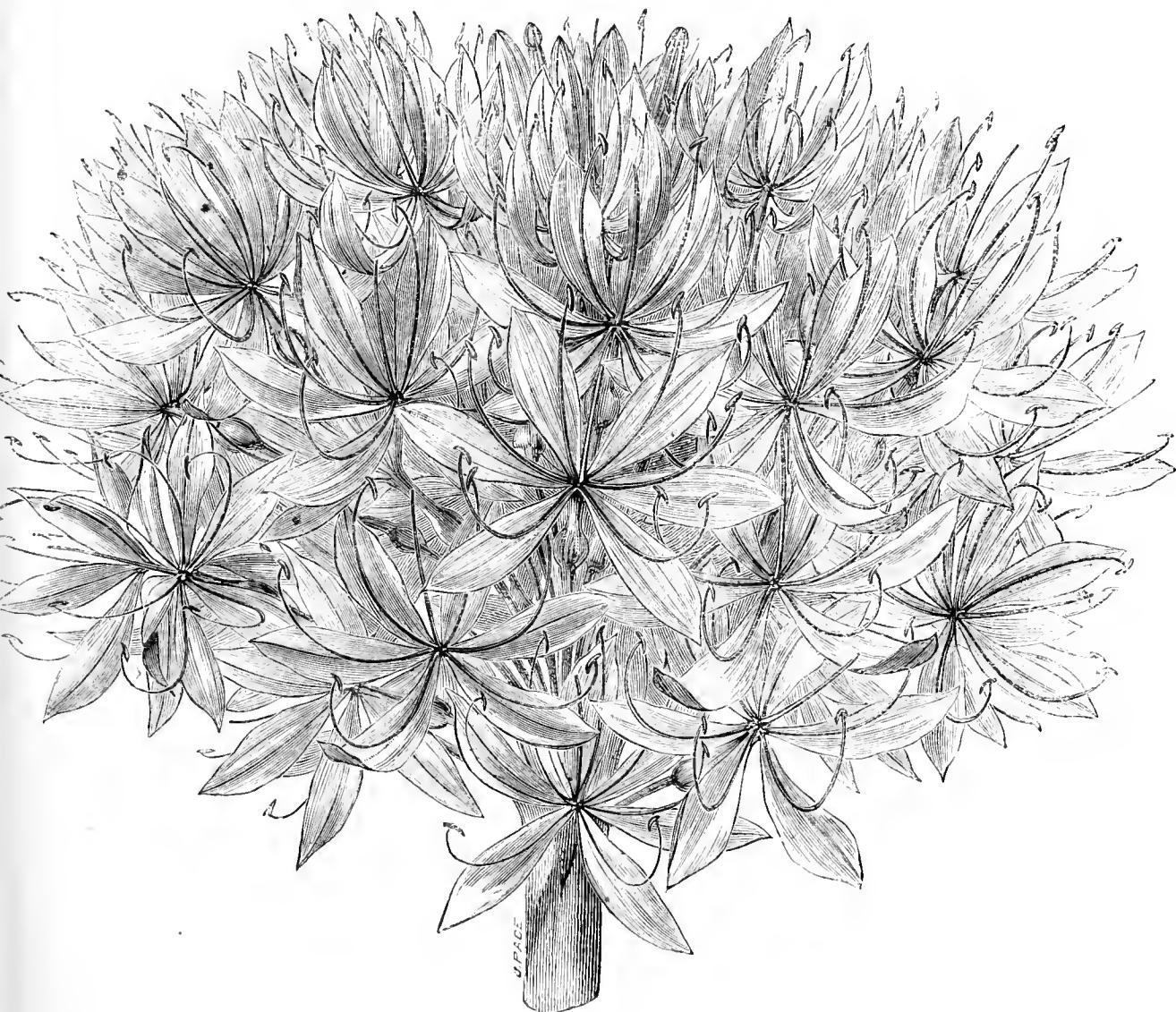
It is simply a process of cold treatment up to the time of placing the plants in the forcing-house, and this is the only extra expense incurred. Messrs. J. and J. Hayes grow every year from 1,500 to 2,000 plants of Laurustinus, and there is always a succession of plants being brought on to come in during successive winters. Only water is given, liquid manure not being required. It is an error to suppose that the latter is so necessary as is generally thought to market-plants. Some of them are sent to market, where they command a ready sale, at good remunerative prices.

The felt-covered "hurdles," as they are termed, deserve a passing notice. They are formed of light wooden frames, covered with ordinary felt, which costs about one penny per superficial foot. The felt is tarred every year, and thus kept in serviceable condition for a long time. In constructing the frame-work for these hurdles, they are strengthened by means of cross-pieces put triangle-fashion across the corners, and with pieces put across the frames. During summer the coverings, not being in requisition, are stowed away carefully.

In this nursery there are some plants of GHENT AZALEAS which I understood Mr. John Hayes to say came from the Messrs. Loddiges' nursery years ago; they are all fine varieties, and are

found very useful for cutting from in winter and early spring. They are most accommodating plants, for they are taken up every year, put into pots, and placed in the forcing-house; and then, when they have done their work, gradually hardened off and put back into the open ground again, where they make sufficient growth to form buds for another season. Flowers of these Azaleas find a ready sale.

It may be remarked that in lifting the Azaleas they are taken up with large balls, so that the plant does not suffer in the least by the removal. This is all-important, as a check would defer, if it did not, to a considerable extent, spoil the head of bloom looked for on the plants.—R. DEAN, *Ealing, W.*



HÆMANTHUS CINNABARINUS.

 ONE of the finest of an especially ornamental group of stove bulbous plants, and one which is remarkable for the showy character of its inflorescence. The genus

Hæmanthus affords considerable variety of type. In the present instance, the bulbs are ovate, and the leaves, which are few in number, and of an oval, oblong form, are cylindrically sheathed at

the base, forming a kind of neck to the bulb. The flower-scape grows up from the centre of the leaves, and is robust, about a foot high, crowned with a dense globular head of flowers, which, when developed from a strong bulb, is as much as six inches through. The flowers are numerous, collected into an umbel; the segments of the perianth are sub-equal, oblong, spreading, and of a charmingly brilliant colour, a vivid cinnabar-scarlet, tinted with carmine, having the sparkling lustre of a Guernsey lily; the rigid filaments of the stamens are of the same colour as the perianth, and are tipped by brilliant yellow anthers, which impart an additional interest to the flowers; the style also, which is more slender than the stamens, is of the same brilliant red.

This species of *Hamanthus* is allied to *H. multiflorus*, and being like that species a native of West Tropical Africa, it consequently requires a stove temperature for its successful cultivation. The gorgeous flower-buds last for a considerable period in beauty, so that in a collection of stove plants, it will be quite an acquisition. The leaves in this case are about contemporaneous with the flowers. It has lately been introduced into commerce by Messrs. Veitch and Sons, of Chelsea, to whom we are indebted for the woodcut by which these brief particulars are illustrated.—T. MOORE.

THE CARNATION AND PICOTEE AND A BUNDLE OF CRITICISMS.

EVERY special and altogether unlooked-for distraction, which, greatly to my regret, threatens grievously to abbreviate my future opportunities of the enjoyment of floriculture, and which at the time wholly engrossed my small energies, compelled me to pass over the very interesting and gratifying remarks of the Editors of the *Gardeners' Chronicle*, of July 27th, on the National Carnation and Picotee Exhibition, and the mode of showing followed. It is true the writer's remarks proceed on an entirely erroneous basis—the assumption that a collar (as it is described) of white pasteboard is used for the purpose of supporting the calyx, and preventing the bursting which might otherwise occur—an error which has been corrected by Mr. Douglas.

But the writer, after saying the exhibition "was very successful from the point of view of the professed florist, the several classes were well represented, and the skill of the cultivator, as well as the beauty of form and colour of the flowers, were well displayed," proceeds severely to criticise and condemn the mode of showing adopted:—

"No attempt was made to break from the tradi-

tional mode of exhibiting these flowers—a tradition so venerable, and so religiously acted up to, that it would appear as if the height of excellence as regards practice had been reached, and that long experience had shown that no improvement could be made. At the risk of being considered rash heretics, we venture to dispute the assumed excellence of the present mode of exhibiting these flowers. Is it necessary, for instance, that the flowers, no matter what their colour may be, should be throttled by a stiff collar of dead-white cardboard, projecting all round the flower for some distance? Assuming that some support of this kind is necessary to prevent the effect of the bursting of the calyx, is it necessary that such support should be so conspicuous? The effect is often distressing, often ludicrous, and nearly always detrimental to the lighter colours of the flowers themselves. The card might be so curtailed in its proportions as not to be objectionable, and it might be of some light warm neutral tint, which should enhance, not detract from, the colour of the flower."

Quoting the above, in his issue of August 3rd, the Editor of the *Garden* remarks:—

"It is high time to protest against the way in which these lovely flowers are made hideous at shows. A bed of seedlings left alone had a better effect than all the collared Carnations ever seen. We do not wish to quarrel with the 'florist' for his ideal, and let him lay down all the rules and standards of perfection which he likes. What we have to deplore is the fact that, after ages of effort, and not a little vaunting of what has been done, the ideal flower is only to be seen in a deep paper collar, with all its delicate beauty of varied petal destroyed, flattened, or picked out. Each exhibitor is armed with a small series of instruments, reminding one of a dentist's collection, wherewith the said exhibitor extracts small petals, flattens others, and goes through a variety of operations, to force the flower to assume for an hour or two before its death a shape which he calls perfect. All this one might tolerate if, at the same time, these beautiful flowers could be seen as they grow. This is all we ask for. A show of Carnations and Picotees well grown in pots, and allowed to bloom without mutilation or objectionable collars, would be a charming novelty, and we should see in which way the flowers look best. We believe the usual way of showing them is that calculated to exhibit to the least possible advantage the beauty and grace which Carnations and Picotees naturally possess."

"A. D.," in the same periodical, in the following week, writes that he "entirely endorses" these remarks, and says of the practice of dressing the bloom:—

"It is not the flower as produced by Nature, but one shaped and fashioned as far as possible by the hand of the expert, who, with his tweezers, manipulates it in such a way as that it shall not be grown, but pulled into his ideal. If this practice were permitted with the rose, for instance, what would be said? and if necessary for one flower, why not for another? An honest judge should disqualify all dressed flowers, and that would soon stop the process."

Continuing the bill of indictment, the Rev. J. B. M. Camm, in the *Journal of Horticulture* (p. 187), says:—

"I do not grow Carnations either for exhibition or for the decoration of the garden, but I am very fond of the plant, and know several of the largest growers, both amateur and professional, and I have exhibited Roses at a sort of joint show where Car-

nations were shown. I had never seen florists dressing their flowers before, and I must express my opinion that it was a very unedifying sight. The lovely flower was seized by the seruff of its tender throat, much like a poor victim is seized by the dentist, and a pair of ivory tweezers were employed in pulling every single petal out of its place. 'I say, old fellow, have you seen these Carnation fellows dressing their flowers?' said a brother rosarian to me. 'They are like a lot of ladies'-maids,' I answered, 'preparing their mistresses' heads for a ball.' It was most amusing work watching them, and the difference they made to their pets, and the improvement or the reverse that they effected in Nature's handiwork, were so great, that I am sure the dame herself would not have reeognised her children." Asking four questions,—"Is this right and proper? If it is, how is it the Carnation is the only flower manipulated in this way? How is it rosarians are content to show their blooms as they are grown? And what would be thought of a man who fastened down with gum or some cosmetic the inmost petals of the somewhat thin Etienne Levet, or of the operator who applied some sort of contrivance which held the Roso in a grip like a vise, and prevented its opening?" Mr. Camm remarks, "No end of a row would be made about it, and quite properly, too. If this practice goes on, we shall come to this: it will not be the best florists or the best flowers that will win; it will be the most skilful operators, and the most highly dressed and artificial flowers, that will carry off the prizes."

Finally, as I am told, though I have not read the communication, "A. D.", giving the rein to an imagination excited to the verge of prurience, likens the chaste, cold, white card to the flaunting garb of a prostitute.

Verily these are grave sayings, and if they had the force of fact to support them, we Carnation and Picotee-growers and lovers should deserve to be exiled from the domains of Flora. But indeed the charges made rest on no basis of fact or argument. The description of the work of the dresser, vivid as it is made by the force of Mr. Camm's imagination ("A. D." I pass entirely over, for gentlemen who assume a monopoly of "honesty" can deserve no reply), is a caricature so extreme, that it utterly distorts, not describes, the result; and as for the question, Why is the Carnation the only flower manipulated in this way? (assuming as a fact what is not a fact, for every flower, the Rose, of course, included, is "dressed" more or less, as the *inherent properties* of the flower suggest,) I answer, the Carnation is so treated because it rejoices in a measure of "variety" possessed by no other flower, because "without violence to its general unity, it has no two petals, and no two stripes on the same petal, alike in the form of their colours." Where, therefore, Nature has left a hidden beauty, the florist steps in to produce its development, just as the lapidary by his art gives brilliancy and form to the otherwise dull and shapeless diamond. Both work on the same principle, and both, if successful, produce the same result—the development of beauty, inherent, but previously unseen.

The card is used merely as a foil to the flowers, and the white ground is chosen simply from the impossibility of finding neutral tints, which, whilst they would combine with the varying colours and modes of colour of the flowers, would harmonise with each other. Many years ago, at the wish and with the aid of an artist friend, I made a number of experiments in this direction, with the result I have indicated. The florist, in his effort to set off his productions to advantage, resorts of necessity to the effects to be obtained from the principles of *combination* or *contrast*, and as, in the case of the foil, he cannot combine and harmonise, he turns naturally to the broader and bolder effects of contrast. Forty years ago Carnations were shown without cards, in tubes elevating the bloom completely from the ground. There are now no Carnation-growers of eminence who would recur to the practice.

As to the worth of the argument that "no attempt was made to break from the traditional mode of exhibiting these flowers," what would the learned writer think of its parallel if applied, say, to a course of lectures on botany? "The lecturer was very successful, from the point of view of the professed botanist; his language was well chosen, and he illustrated his subject with force and clearness. But at the risk of being considered rash heretics, we venture to dispute the usefulness of this minute consideration of Nature. She is great and glorious in her broader aspects, and in such a light only do we think it worthy to consider her." Rash heretic, indeed, would be the exclamation of the learned Professor, with the addition possibly of a stronger expletive.

The same reply suffices for the Editor of the *Garden*, who asks in effect that the broader results of the garden shall be transferred to the exhibition-table. Many a time and oft I have had the remark addressed to me by visitors to my flowers:—"Talk of exhibitions; there are no exhibitions like this!" The egotism of the quotation will, I trust, be forgiven me, as it is given solely as a stimulus to others to obtain, as they readily may, a like enjoyment. The "bed of seedlings" referred to by the Editor of the *Garden* was indeed glorious, an aggregation of form, colour, and mode of colouring grand indeed in its effects, but it would be a stretch of language, in truth, to say it had been "left alone," and the veriest tyro would surely understand there was more *variety* in white, scarlet, and maroon, than in scarlet and maroon, or in a self-coloured flower only. Whether the Editor of the *Garden* sustains his case by calling to his aid the comparison of the dressing-tweezers to the instruments of the dentist, or Mr. Camm by likening the florist's work to that of "a lot of ladies'-maids preparing their mistresses' heads for a ball," I

must leave for the reader to determine, but adopting the simile, at least thus much may be said, the dentist's art is a tribute to humanity, and an aid to civilisation, and of the work of the ladies'-maids, from their mistresses' point of view at least, it must be assumed to be an accessory to beauty.

I have thus, I trust, fairly answered the objections raised. The question is not a small one, but hinges upon the same principle upon which depends every step in our civilisation. And to dispassionate minds, among which, of course, I rank those of the objectors themselves, it will surely afford matter for reflection that these objections are raised by those who avowedly have no special acquaintance with the subjects treated of, and who do not take the part of the informed teacher, and demonstrate not merely what is in error, but exemplify what is right; whilst on the other side, "there is an absolute consent among those who are engaged in the pursuit and have paid attention to it, and this not of one time and place, but of all times." The canons and practices of the florist rest not upon unreasoning ignorance, but upon patient observation and intelligent deduction, and will never be moved by hasty denunciation, springing from imperfect and erroneous assumption.—E. S. DODWELL.

P.S.—Mr. Camm's assumption that if the practice of dressing flowers goes on, it will be "not the best florists or the best flowers that will win," but "the most skilful operators and the most highly-dressed and artificial flowers that will carry off the prizes," is strangely at variance with history. For two years in succession, at the Northern Show of the National Carnation and Picotee Society, the premier flower selected (the best in the whole exhibition) had been untouched by the dressing-tweezers; whilst at South Kensington, on July 23rd, two lots of flowers on which the utmost effort of art (and I presume to say I know something of what art can do in this direction) were virtually nowhere in the competition. One came from the grand collections at Slough, contributed by Mr. Turner, the premier of florists, in his loyalty to the Society; but the blighting, blasting heat and wind of the previous week had made art helpless. The other was the contribution of Mr. Burnaby Atkins, and the dresser was Mrs. Burnaby Atkins, who will certainly take high rank at Carnation and Picotee competitions, when she gets the better varieties to manipulate.

Another point I wish to say one word upon is the absence of all notice of two large boxes, containing upwards of one hundred flowers set up by myself, at the exhibition in question, *without cards, and untouched by the dressing-tweezers*. It argues a very imperfect examination of the exhibition by its critics that these collections, which, from the stand-point adopted by them—the evils of the card and the dressing-tweezers—should have supplied them with an illustration of their ideal, went unnoticed. But to me, it is an illustration of an old experience, and a well-understood truth—that flowers so exhibited quite lack the attraction possessed by those which have received the loving gentle attentions of the skilful and faithful servitor of Flora.

MARL FOR SHRUBS AND FRUITS.

HERE this abounds, as it does in many parts of the country, an improvement may be made in light soils which could scarcely be conceived by those who have been strangers to the use of Marl. From experiments with shrubs, fruit-trees, and strawberries, my faith in the qualities of this soil has been greatly strengthened. As illustrative examples, I may cite the following:—

On a hill composed of marl, which was taken out to form a site for some new buildings, evergreen shrubs, conifers, and deciduous trees of every description were planted, giving a little turf soil to each, in order to start them, and now they have far outdistanced in growth their compeers planted at the same time in the ordinary soil.

Fruit-trees, such as peaches, pears, and plums, planted with a quantity of this marl, mixed in the ordinary soil along with a few bones and some brick rubbish, have given excellent results.

Strawberries in pots under glass were larger and of finer quality than I ever had them, and they were grown in a mixture of marl with the loam. Though the plants did not have the best of treatment while fruiting, they carried their crop in good order, retaining all the roots to the last, these filling the pots and growing outside while on the shelves; and not an insect of any kind could be seen when the plants were done with.—M. T.

VILLA GARDENING FOR OCTOBER.

WE are on the verge of autumn. The days close in rapidly, and the night air is chill, though by day the sun shines warmly, and the air is soft and balmy:—

"Red lie the moors—the glorious autumn moors,
Crimson, and red, and scarlet, with the glow
Of twice ten thousand nodding heather-bells;
With wealth of colour gorgeous as the tints
Of Iris' purple robe."

But the woodland, the lines of which frame this picture, are yellow and orange and red, in their autumn tints, and already the leaves fall in thousands, obedient to the law which decrees their budding in spring and their decay in autumns.

GREENHOUSE.—Any plants in the open air, placed there for the purpose of ripening their growth, should now be placed under glass, the tender ones, of course, occupying the greenhouse. What excellent late summer plants *Abutilons* make! and as they can be wintered in a cold greenhouse, so long as sharp frost can

be kept from it, they are just the plant for villa gardeners. Here are a few that all villa gardeners should grow, for blooming in pots in August and September:—*Rosaflorum*, rose; *Lemoinei*, yellow; *Darwinii tessellatum*, with handsome golden variegated foliage, and bold orange flowers; *verrillarium*, with very curious eardrop-like flowers, red, orange, and black in colour; *Le Grelot*, pink, with dark eye; the pure white *Boule de Neige*, and *Duke de Malakoff*, orange, very fine. All these do well, if potted on in early summer, and stood out in a sheltered place in the open air to come into flower, and then carried into the greenhouse. They are unusual in character, continuous in bloom, and have handsome foliage; they will go on flowering till the cold winter closes the duration of floral service. Plants that are to bloom during the winter should have the warmest place in the greenhouse, but not be allowed to suffer for want of water. Give plenty of air night and day while the weather is warm and sunny, and if the weather comes in rough and windy, with rains, shut the house up nearly close; but at this time of the year, plants can do with an abundance of air. Sunshine is requisite also, and so shading should be discontinued, so that plenty of light might fall upon the plants. Plants that are still growing and blooming must still be well watered, but *Fuchsias*, *Pelargoniums*, *Begonias*, &c., that have commenced the process of ripening or drying off, will need but slight supplies. Over-watering at this stage does much harm.

Green-fly is now troublesome, and must be kept under. The use of the syringe does much to cleanse the plants, but when that has to be discontinued, a good fumigation with tobacco-smoke will be found of great advantage. There is nothing like going into the winter with a clean bill of health.

The later-shifted *Fuchsias*, and a few large-flowering and *Zonal Pelargoniums* similarly treated are still very gay, and *Harrison's Musk* is a perennial source of interest. The pretty blue-lavender *Plumbago* is also a capital villa gardener's plant. Then in reversion, to succeed these, are *Cinerarias*, *Cyclamens*, *Primulas*, and such-like, for a warm greenhouse; while for a cold one there are the *Christmas Roses*, *Colchicums*, *Autumn Crocuses*, *Primroses*, &c., if only they be brought on in pots early enough to flower in October and November. *Chrysanthemums* in pots must be included. We have some capital plants in 8-in. pots, that have been grown in good soil, and the addition of some buffalo-horn manure. Let villa gardeners make a note of this manure for *Chrysanthemums*. Keep all dead leaves and decaying flowers picked off from the plants. Some gardeners appear to get careless in September, as if order and cleanliness were not necessary at all times; but a wise gardener will continue

to keep everything neat and tidy, and so prolong to the fullest possible extent any flowers that may gild the on-coming autumn.

FLOWER GARDEN.—How generous Nature is, for if she ordains decay in some plants at certain seasons of the year, others succeed them, and so the round of floral beauty is maintained. We are cutting away decaying stalks of *Gladiolus*, *Delphinium*, *Pentstemon*, &c., and straightway up come the *Autumn Crocuses* and the fine old *Colchicums*, to discharge their annual round of duty. There is no cessation of Nature's benefactions to the children of men. *Chrysanthemums* growing in the open ground need to be securely staked, and if growing against walls, which is an excellent way of having them in bloom early and protecting from frost, nailed or tied in. In a week or two the bedding plants will be rapidly decaying, and then comes the question as to what shall succeed them. *Pansies*, *Violas*, *Wallflowers*, *Silene pendula*, *Polyanthuses*, &c., come in very useful for the purpose; and if a few cheap *Hyacinths* and *Tulips* be planted first, and the plants named above over them, a pretty and somewhat durable effect will be secured. Some persons use evergreens, both green-leaved and variegated, for filling their beds in spring; it is a little expensive to get a supply at first, but once obtained, they last for years, and only require a piece of ground to plant them in during summer. Let all beds and borders be kept tidy, removing decaying foliage and leaves, and the garden be made neat to as late a period of the year as possible. Cuttings of bedding plants can still be put in if required.

KITCHEN GARDEN.—All ground from which crops have been removed, if not required for the immediate planting of some other subject, will be greatly benefited by being deeply dug and thrown up rough. If wanted for *Early Potatoes*, manure it in November, and throw up in ridges for the winter. *Beet*, *Carrots*, *Parsnips*, and *Jerusalem Artichokes* can be taken up and housed, though the two last are perhaps best left in the ground till wanted. A few August-sown *Cabbages* may be planted out, also *Hardy White Cos* and *Hammersmith Cabbage Lettuces*, on a warm south border. Weeds continue to be very troublesome, and among fruit-trees it will be best to dig them into the ground, rather than to attempt clearing them by hoeing. *Celery* needs to be looked after; snails and slugs are very troublesome, getting down into the hearts and disfiguring them. The later rows of *Celery* will require earthing-up. *Strawberry-beds* may also be planted, but the sooner it is done the better.

FRUIT-GARDEN.—We are still syringing our wall-trees with soap-suds, and it is all the more necessary in the case of trees planted against old walls, as they harbour insects very much. To assist in ripening the young wood, all the

small side-shoots should be taken off, so that as much light and air as possible may get to the wood, and ripen it. In like manner, we shall soon commence cutting out all the lateral growths in pyramid and bush-trees, to give free access to currents of air, to harden the growths, for there is now no danger of such pruning encouraging fresh growths. So far, all trees appear as if they would promise to do well for next season; and if the wood can be well ripened, the prospects of a fruit crop next spring will be much assured. If fine drying weather last until the middle of the month, gardeners will have much reason to rejoice and be glad. Next month, we will give select lists of fruit-trees for planting in villa gardens, as we shall then have reached the time when such operations can be carried out.—SUBURBANUS.

GARDEN GOSSIP.

THE ROYAL HORTICULTURAL SOCIETY'S Meeting on September 17 brought together a nice exhibition of Dahlias, the blooms of which appear this season to be highly coloured and unusually attractive. Several seedling Dahlias were shown, of which three obtained first-class certificates,—namely, *Aurora*, a bright golden orange, from Messrs. Keynes and Co.; *Joseph Ashby*, an orange-scarlet, from Mr. C. Turner; and *Clara*, a lilac-rose, from Mr. G. Rawlings. Second-class certificates were given to Messrs. Keynes and Co. for *Rosy Morn*, of a particularly bright and attractive rose-colour; and for *Gaiety*, a rather coarse yellow fancy, striped with red and white, and tipped with white, being somewhat novel in colour. Mr. H. Cannell received first-class certificates for two single-flowered Dahlias, named respectively *Paragon* and *Lutea*; they were evidently varieties of *D. variabilis*, the first having the florets velvety maroon, edged with dark crimson, the second being pure yellow. Mr. C. Noble showed a bunch of his remarkably free-blooming H.P. *Rose Queen of Bedders*. Mr. W. Bull exhibited *Macrozamia cylindrica*, a handsome plant, with oblong-ovate leaves, cut into long, narrow, glossy segments, ivory-white at the base; awarded a 1st-class certificate. He also showed the interesting *Artocarpus*, or rather *Ficus excupta*, which has sinuately bipinnatifid leaves, and small, roundish green fruits. Other 1st-class certificates were awarded to *Begonia Nelly May*, from the Society's garden, a free-growing variety, with large, drooping, rosy-pink, very showy flowers, the result of a second cross from *B. rosæflora*; to Messrs. Hooper and Co., for *Begonia Louis Thibaut*, a profuse-flowered dwarf double-crimson of good properties; to Messrs. Laing and Co., for a fine tuft of *Eulalia japonica zebra*, upwards of a yard high, in which each leaf was marked by some five to six pallid bands, and which proves to be quite hardy; and to Mr. Green, gardener to Sir G. Macleay, for *Nelumbium luteum* as a hardy aquatic, with ornamental foliage, the peltate leaves having a beautiful velvety surface. A collection of *Abutilons* was sent from Chiswick.

— MR. CANNELL has sent us flowers of DAHLIA PARAGON, a single-flowered variety of

Dahlia variabilis, in which the flower-heads consist merely of a single row of ray florets surrounding the yellow disk, these ray florets being of a rich, velvety maroon, edged with dark crimson. The blossoms are remarkable for their quiet beauty. The single-flowered states of *D. coccinea* with orange-scarlet, of *D. mexicana* with crimson-scarlet, and of *D. Cervantesii* with crimson-scarlet and yellow flower-heads, are all most remarkable for their decorative capacities, and would certainly be more freely grown as border-flowers, if they were better known.

— IT is, we think, not generally known that PERENNIAL ASTERS, the Michaelmas Daisies of our gardens, and some, at least, of their allies, e.g., Boltonias, may be raised from seed, with the result that the seedlings flower during the first year. Such at least, we are assured, is the experience of M. Vilmorin, who has in his private garden distinct lines of many species of this genus, all sown in the spring of the present year, and all, as we understand, in blossom at the present time.

— THE rare OPHIOGLOSSUM LUSITANICUM has been found this summer in Ireland, by Mr. Henry Chichester Hart, the naturalist to the recent 'Challenger' Expedition. It was discovered in the wilds of county Donegal, and though it had already been recorded as a "British" plant in virtue of its occurrence in Guernsey, yet this Irish habitat extends the known area of its distribution, and should encourage botanical tourists to search for it on the warmer coasts of England, and in other parts of the sister-isle.

— THE NEILL PRIZE—the "blue ribbon" of Scotch gardeners—has been awarded this year to our valued correspondent, Mr. Webster, gardener at Gordon Castle. Mr. Webster and the Caledonian Horticultural Society may both be congratulated on the judicious selection which has been made.

Obituary.

— MR. JOHN NICOLAS HAAGE, of Erfurt, died on August 9. Mr. Haage, who was botanising in the neighbourhood of Mürren, in Switzerland, fell down a steep precipice, sustaining injuries from which he did not recover. He was the founder and head of the firm of Haage and Schmidt.

— MR. ANTHONY NICOLAS BIJVOET, of Overeen, near Haarlem, died on August 26, in his 78th year. Mr. Bijvoet was the head of the well-known firm of bulb-growers, and a fine example of a Dutch country gentleman, beloved and respected by all who knew him.

— MR. JAMES BROWN, for many years gardener in the service of the late Duke of Buckingham, and of Lord Southampton, died at Crowton, Delamere, Cheshire, on September 9, in his 93rd year. About the year 1822, Mr. Brown grew one of the largest Pine-apples that had then been obtained in this country, and which was presented to George IV.



C. S. Basenberger del.

Chromolith. C. Sevcyns, Brussele.

Rose Charles Darwin

ROSE CHARLES DARWIN.

[PLATE 478.]

FOR the specimen of the fine new H.P. ROSE named CHARLES DARWIN, we are indebted to Messrs. Paul and Son, of the Old Nurseries, Cheshunt. It is remarkable at once for its rich deep maroon-shaded colour, and also for its free autumn-blooming properties, rendering it "perpetual" in something more than the name. Mr. G. Paul has very kindly sent us the following notes, to accompany the figure:—

"This is a seedling of Mr. Laxton's, which some three years ago he placed in our hands for trial. It has proved to be a very fine rose, with the merit of novelty of colour, having a brownish tint suffused over the crimson, and having a wonderfully decided habit of autumn flowering; indeed, throughout all the quarters, no single variety at this date (September 17) is covered to an equal extent with well-developed flowers. This is evidently due to some Bourbon blood in its parentage, and is a most desirable quality. On its merits, we have decided to distribute it next spring.

"Curiously enough, the *English-raised* Roses of the last two years seem to be the best of the new kinds. Taking those of 1876-7, Mr. Turner's Oxonian and Mrs. Baker (1876), with our Duke of Connaught and Sultan of Zanzibar, and Mr. W. Paul's Magna Charta, are the new kinds of the year worth growing.

"Of 1877, nearly the same holds good. Emily Laxton and Marchioness of Exeter, and Mrs. Laxton (1878), raised by Mr. Laxton, sent

out by us; Mr. Postans' May Quennell, sent out by Messrs. William Paul and Son; and Mr. Davis's Penelope Mayo, sent out by Mr. Turner, are, with our own John Bright and Robert Marnock, the best of the year.

"Of the French kinds of 1877-8, taking first the hybrid perpetuums, we hold Alfred K. Williams, a new Horace Vernet-like flower, Gareon's Boildieu, sent out by Margottin, a large, bold flower, and Eduard Dufour, of Leveque, are the best amongst the crimsonos. Madame Jean Bowyer is in the way of Marie Finger, and is promising; Liabaud's two, Madame Gabriel Luizet and Madame Laboulaye, an improved Duchess of Edinburgh, are promising lights. Mr. Guillot's Hybrid Tea Mdlle. Alexandre Bernaix, and Leveque's Princesse de Tremouille, are both free-blooming and La France-like roses.

"Of the Teas, we think highly, from flowers seen here, of Mr. Bennett's Madame Weleh, a seedling of Madame Dueher, at Lyons; and Laeharine's Madame Lambard is a good vigorous free-flowering Tea, of soft rosy-peach colour, likely to be particularly useful. A new raiser, Nabonnand, sent out some ten or twelve new Teas, some of which, as Princess Vera, look pretty; but to be useful now, a Tea Rose must have a bold vigorous habit and large perfect flowers, or we might as well revive some of the old varieties, like Caroline and Tea Jaune, which have been thrown out of the Catalogues.

"It is pleasant to find that Roses continue to progress, and pleasanter to find English-raised kinds heading the lists.—GEORGE PAUL."

VINES AND VINE-CULTURE.

CHAPTER XIV.—VINE BORDERS, THEIR FORMATION; SOIL, &c.

THE Grape Vine is a remarkably free-growing plant, and is found growing in great luxuriance under many very opposite conditions, and in soils of a widely different character. The consistency of the soil—its composition, so to speak—appears to be of far more importance than the actual ingredients themselves of which it may be composed. For example, we know of Vines doing remarkably well on very calcareous soils, on deep alluvial loams, on very shallow soils, where the roots penetrate into the fissures of the rocks in search of food, yea, in heaps of stones almost, as well as in beds of the richest manure. The Vine, however, is never found to succeed in wet, clayey, tenacious soils. A certain amount of aeration and porosity of

the soil seems to be an absolute necessity, with an abundance of water at certain seasons. From these general principles, therefore, it will be seen that it is not so very difficult to arrive at a knowledge of the kind of soil best suited for the cultivation of the vine, and that the formation of a vine border is a task requiring no very great skill to perform.

Soils.—The soil best suited in itself for the growth of the vine is a fibry, calcareous, yellow or virgin loam. No analysis that can be given will convey much information as to the exact constituents of the soil that is meant, which is that termed "fibry yellow loam," although by every vine-cultivator the designation is well understood. It is the top-soil or turf, cut from two to four inches thick, from an

old pasture or field. It is "fibry," from containing all the fibrous roots of the herbage or grass growing on it. It is "yellow," by reason of its not having been in cultivation for some considerable time, so that it contains little or no organic matter. Soils under cultivation, by having organic matter introduced, soon lose this yellow or fresh appearance. The term "virgin" loam is sometimes used. Indeed, the word "loam" itself is one of wide meaning, since soils that are termed "loam" or "loamy" range from sand to clay; thus we have what is termed "sandy loam," and also "clayey loam." It is the intermediate order or quality of the soil that is best suited for the vine,—a fibry yellow loam, of a calcareous nature, neither too light and sandy nor too heavy, but yet with some substance in it.

Where this soil can be procured, it should be cut from an open pasture, not from a wood or near the roots of trees, lest pieces of the roots remain, to cause fungus. Cut it also while it is dry. Many soils are spoilt by being handled whilst they are wet. Chop the turves with the grass and all to pieces roughly, and to five or six cubic yards of this add one yard of old lime rubbish or broken bricks, a portion of charcoal, wood-ashes, or burnt soil, and from two to three hundredweight of half-inch dried ground bones. This, well mixed together, will constitute the main body of soil to be used, but is subject, of course, to considerable modification as to proportions, according to the quality of the loam that is made of use.

In many cases where the soil used is very poor, more manure of some sort will have to be added. We do not approve of the admixture of much stable manure in the composition of the soil, but strongly recommend the use of horn shavings—Wills's "Elixir," as it is now termed. There is no better or more enriching material for Vines than this manure. About one bushel of Elixir to every yard of soil will prove a good mixture in the formation of the border. If the loam used is of a sandy nature, less of the lime rubbish must be used, as the object in using this is mainly to give porosity to the soil. If, on the other hand, it is of a clayey nature, a far greater proportion of lime rubbish will be required.

In many places it may be very difficult to obtain soil at all approaching that which is

here recommended, but let no one despair of cultivating Grapes on that account. Vines will grow, and grow well, in soils of a much inferior nature, under careful management. We recommend that which we consider the best, and it is for the cultivator to get as near that as possible. We ourselves, in our own experience, have had often to use soils of a very inferior quality—old and exhausted garden soil, without a vestige of fibre—in the formation of vine borders, trusting to the after-management, to top-dressings, and so forth, to make up for the deficiencies. In short, in choosing soil for growing vines, choose the freshest and newest that may be obtainable, although perchance it be or may not appear so rich as some other that has been in cultivation. It will be found more enduring and better suited, in every respect, when the other ingredients mentioned are added in their proper proportion, for the production of Grapes and the general constitution of the vine. The soil thus prepared is ready to go to form the border.

Size of Border.—The Vine may be grown in a very small space, and in very little soil, as is evidenced by the splendid results obtained by its cultivation in pots. This may be termed "high pressure" cultivation. Such vines are soon exhausted and worn out; one crop for one season, and they are done. In larger tubs or boxes they may last a little, but not much longer; and so on, in regular proportions, no doubt (although somewhat difficult to estimate correctly), according to the quantity of soil and the nourishment supplied, is the vigour of the Vine maintained. If permanent vines are desired—vines that will continue in full vigour for, say, 20 years—a border of a considerable size must be provided. In small narrow borders, with a restricted quantity of soil, success for a time may be very great, but even that can only be maintained by the application of much nourishment in the way of top-dressings, renewal of soil, &c., which becomes expensive. A very good rule to go by, and one which gives a very fair proportion, is that of making the width of border equal to the width of the house itself. Thus for a house 10 ft. wide, a border 10 ft. wide would be required; and for a 16-ft. viney a 16-ft. border; and so on. The vine borders should in all cases be from

two to three feet in depth; they should never be less than two feet, and need seldom be more than three feet. A shallow border is apt to become too dry, and requires great care and attention as to watering and the keeping up a proper degree of moisture; and a deep border is apt to get soddened, and the roots, if they penetrate so low, are entirely beyond the solar influence. The roots of the vine travel a long way in search of nourishment; there are instances of their having been found from 60 to 100 feet away, so that, although some limit must be fixed for the size of the border, a greater extent would, of course, be no disadvantage. Indeed, in most of the ordinary prepared borders, where no means have been adopted to confine or restrict the passage of the roots, the greater portion have passed through all the carefully prepared border into the soil beyond, and are thus beyond the control of the cultivator, and beyond the influence of his treatment. Except the natural soil of the place be conducive to the well-being of the vine, the action of the roots should always be restricted to the prescribed space that has been specially prepared for their well-being.

Inside or Outside Borders.—Much discussion has taken place as to the relative merits or advantages of having the Vines planted inside, with the roots inside, or in borders outside the house. Here it is only necessary to say a few words. Inside borders are specially under the control of the cultivators. The vines growing therein are in a degree as dependent on his careful attention and skill as those grown in pots. Every particle of nourishment and moisture has to be supplied. It is, therefore, manifest that in cold, wet, low-lying situations, in the hands of the skilful cultivator, for early forcing and for very late-keeping grapes, there is much to be said in favour of "inside borders." The disadvantages are these:—The great amount of labour, &c., required in watering, and the skill and care in keeping up the requisite degree of moisture at the roots. A scarcity of water, or a little neglect in its application, and the crop is ruined. On the other hand, outside borders require little attention in regard to watering, being exposed to the ordinary rains, which is the best water of all, only requiring attention in very dry times. Many amateur cultivators never think of watering their

vine borders, although frequently they would be greatly benefited thereby. For the general crop of grapes, and for all ordinary cultivation where superior skill and constant care cannot be administered, "outside" borders are far preferable to "inside." A very common practice is to form the borders both outside and inside, the front wall being erected on arches, so that the vines which are planted inside may have liberty of action for their roots to go to either. It has often been noticed in cases of this sort how great a per-cent of the roots are to be found in the outside border, that being generally the moister of the two. It is a fact worthy of notice that the greater portion of the ravages committed by the Phylloxera in this country have been in dry inside borders, the insect having seldom been found in the more moist soil outside. This, if not testimony exactly in favour of outside borders, at least points to the suppression of this great pest, Phylloxera, by the application of more water.

—A. F. BARRON.

THE HEREFORDSHIRE POMONA.

UCH is the title of a valuable and handsome publication, of which the first part has been issued by Messrs. Hardwicke and Bogue (192 Piccadilly), on behalf of the Woolhope Naturalists' Field Club. The work was originally intended to be of a local character, as its title indicates, but the great and wide-spread interest with which the announcement of its publication has been received has induced the Club to make it more general in scope, and consequently it is now intended to make this *Pomona* a thoroughly English work; and though its local name will be retained, it will embrace all Apples and Pears of established merit cultivated in Great Britain. "The coloured drawings, the wood-cut outlines and sections, and the greater part of the letterpress are original, and their production very expensive. The Woolhope Club, however, has neither the intention nor the desire to make any profit from the publication of the work; and beyond the copies supplied to its members, the number offered for sale to the public is very limited, and only sufficient to meet the great expenditure of a work of this character."

The Pomological department is under the

superintendence of Dr. Hogg, the author of the *Fruit Manual*, and one of our leading British Pomologists. We may therefore look to this portion of the work—the descriptions and the nomenclature—being correct and authoritative. Much of the introductory matter in the part now issued is from the pen of Dr. Bull, the energetic Secretary of the Club; and this portion of the work will comprise in the next issue a paper on "Modern Apple-Lore;" "A Sketch of the Life of Lord Scudamore," by Dr. Bull, with a full-page portrait of his lordship; and a paper on "The Cordon System of Growing Pears," by Sir Henry E. C. Scudamore Stanhope, Bart., with a full-page wood-cut of the Cordon Wall at Holme Lacy. This introductory matter is extremely interesting. The portion already published embraces "The Early History of the Apple and Pear," followed by an essay on "Thomas Andrew Knight, and his Work in the Orchard," with descriptions of the new fruits raised by him. These papers will both well repay perusal.

The *Pomona* is of folio size, and the part now issued contains six beautifully-executed chromolithographed plates, by Sevcreyns, representing twenty varieties of Apples and two of Pears, from drawings made for the Club by Mr. A. Ellis. The letterpress comprises a brief historical notice and a description of each variety, accompanied by neat woodcut sectional figures, giving the outline of the fruit. As an example of the style of the letterpress, we quote what is said of Lord Suffield Apple:—

"This Apple was raised about forty-five years ago, by Thomas Thorpe, a hand-loom weaver, of Boardman Lane, Middleton, near Manchester, on the Middleton Hall estate of the late Lord Suffield; and it was named from his lordship, who was a very popular, benevolent man. In 1836 Thorpe sold the buds at threepence each, and trees thus obtained are now living.

Description.—Fruit: large, ovate, even in its outline, with several obtuse angles in its sides. Skin: thin, smooth, pale greenish yellow, with sometimes a tinge of red next the sun. Eye: small, the segments being gathered together in a point and placed in a plaited basin. Stalk: slender, over half-an-inch long, inserted in a deep cavity. Flesh: white, tender, and firm, very juicy, and briskly flavoured.

"This Apple has become the first favourite for early kitchen use, and in all modern gardens is rapidly displacing the early Codlins and the Hawthornden. Its fault is that the skin is too fine and the flesh too tender to enable it to travel without being disfigured by bruises. It is in season in August and September.

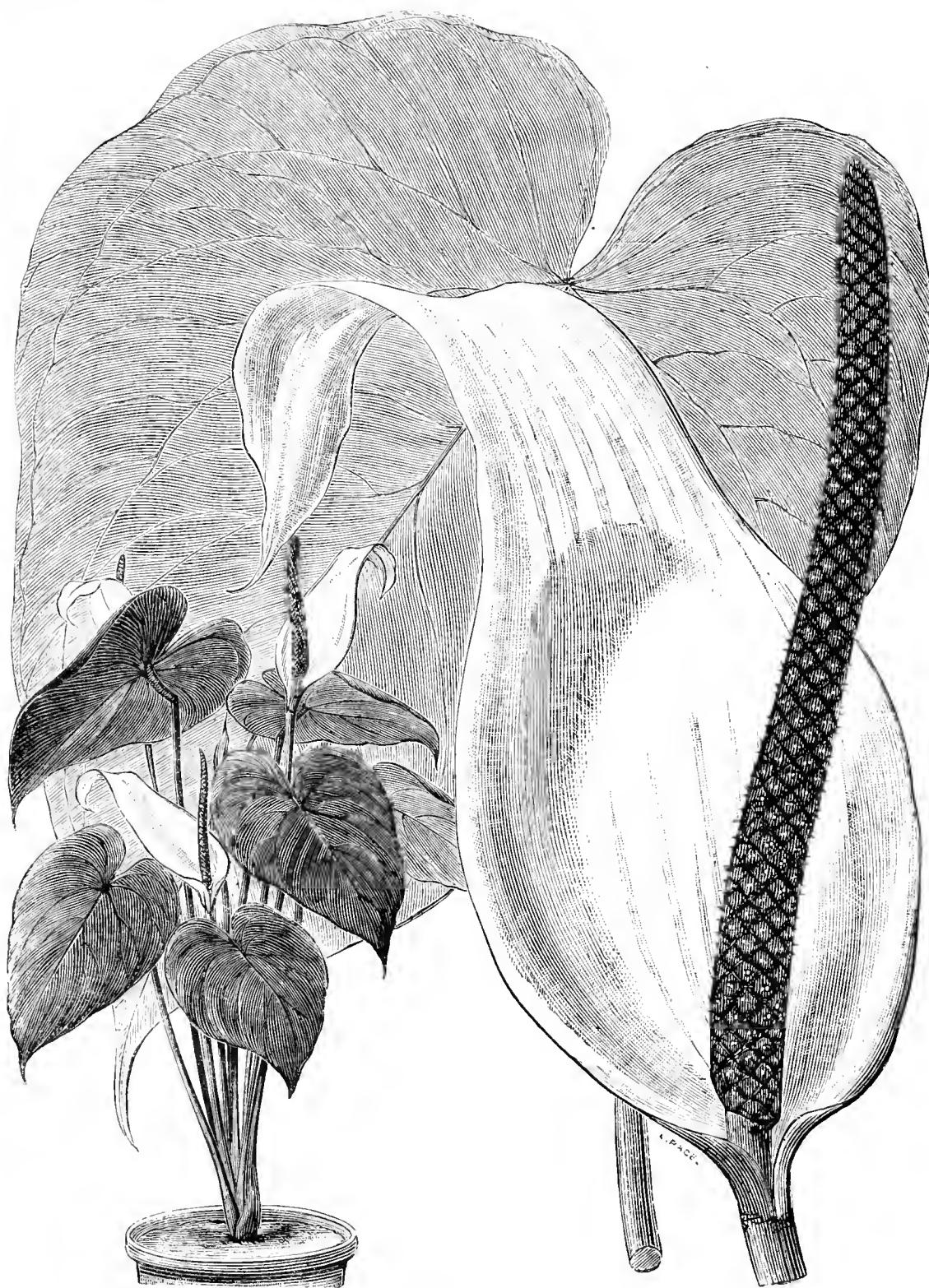
"The tree is hardy, and a great bearer, but does not grow to a large size."

Such a work as this will be extremely useful, as, if it meets with the support it deserves, it may soon be expected to furnish accessible figures of a considerable number of our most popular fruits, to which a means of ready reference would often be a boon. We would, however, suggest that existing published coloured figures should be quoted in the text, as is usual in illustrated works of a general character, since this information would form a useful addendum to the information now given. We shall be glad to find, by the prompt appearance of succeeding parts, that the work is duly appreciated and well supported by the public.—M.

ANTHURIUM ORNATUM.

 EVERAL species of white-spathed Anthuriums are now to be found in our best collections of stove plants, species which vary considerably in their general aspect, and whose proper generic position is not yet perhaps exactly agreed upon. *Anthurium ornatum* is one of the best known of these, and is perhaps one of the most showy. If we except the recently-introduced *A. Dechartii*—which appears to be not very far removed, if indeed it is really distinct from *A. cannaefolium*, and also the white-spathed form of *A. Scherzerianum*, which latter improves vastly in appearance as it gains vigour of development, *Anthurium ornatum* is one of the best known of these, and perhaps one of the most ornamental. It is a native of Santa Martha, in Venezuela, where it was discovered by M. Linden in 1842, and subsequently by M. Fendler in 1854-5. Whether then introduced to European gardens does not appear, but this was not improbably the case. Schott described it in 1857. We do not, however, find it to be recorded in any English garden catalogue, and it was not till flowered by Mr. W. W. Saunders in 1869, and shortly afterwards figured in the *Botanical Magazine*, that it became familiar to English cultivators. In August, 1871, it was exhibited by Mr. Saunders at South Kensington, and received the award of a First-class Certificate.

The plant has a very short stem or rootstock, clasped by the thickened sheathing bases of the petioles, which are slender, rigid, terete, with a narrow slit in front, 2 to 3 ft. in length, terminating in a thickened green node or joint,



ANTHURIUM ORNATUM.

by which the ovate-cordate leaf-blade, which is from a foot to a foot and a half long, is attached. The leaves are leathery in texture, and of a deep green colour. The spathes are 6 to 8 in. long, oblong-ovate, cordate at the base, abruptly acuminate, and spreading from the top of the slender green cylindrical scapes, about as long as the petioles; they are of coriaceous texture, and pure white in colour,

while the spadix, which is of about the same length and stands erect, is thickish, of a fine pink or purple colour, dotted with white discoid stigmas.

It is a somewhat stately plant, and decidedly ornate in character. The spadices, moreover, emit a most delicious scent, as do those of *A. Dechartii*. In the specimen exhibited by Mr. Saunders in 1871, the spadices were

certainly of a pinkish colour, not purple as shown in the *Botanical Magazine* plate above quoted. Mr. Williams, however, to whom we are indebted for the figure, describes it as nearly black, but covered with a violet hue, so that probably it is pale-coloured when first developed, and becomes darker with age.—
T. MOORE.

THE CORYDALIS.

W^O of the prettiest beds we have had upon the lawn at Valentines during the past summer consist of *Corydalis lutea*. They are permanent and persistent plants, with very chaste foliage, and elegant yellow flowers; hence I have thought a short reference to them would be acceptable to the readers of THE FLORIST AND POMOLOGIST. The species of the old genus *Corydalis*, which belongs to the natural order of Fumeworts (*Fumariaceæ*), are far more valuable than from the infrequency with which they are met with, many persons would be led to believe. *Corydalis lutea*, or as some consider it, a variety of *C. capnoides*, must be known to many lovers of gardens, in so far as the plant itself is concerned, even though they may have no very precise knowledge as to its name. It is an exceedingly chaste plant, often seen growing out of hard, dry walls. The foliage is somewhat glaucous, fern-like, resembling *Adiantum*. The flowers are borne in upright racemes, and are of a very delicate yellow colour. The spur of each flower is besides somewhat singular, hence the name *Corydalis*, which is derived from "korydalos," "a lark," the name being applied to the plant from the great resemblance this spur is supposed to bear to that of the lark. *Corydalis lutea* we have ere now used as a summer bedding plant, and in admixture with others, such as *Phlox Drummondii* and similar annuals, and very pretty has been the effect. If only for its foliage, it is far better to use it than to adopt the American fashion of growing carrots in flower beds for their foliage.

C. nobilis is a more vigorous, bolder plant, of about equal value with *C. lutea* for bedding-out; an earlier bloomer, and certainly a stronger-growing or taller plant. A common and well-known form is *Corydalis bulbosa*, in puce and red varieties, once known as *C. solida*. It is a dwarf plant, blooming in March and April;

whilst those previously noted do not, as a rule, produce their blossoms until the months of July and August, when amidst the often prevailing aridity the foliage looks very refreshing. The best variety of these two latter—viz., the puce and red-coloured—is technically known as *C. bulbosa rubra*. *Corydalis cava albiflora* and *C. capnoides*, are white-flowered plants, the latter a distinct species, the former a white form of *C. tuberosa*, by which name it was formerly, and may still perhaps be known.

Few plants require more simple culture or attention than do these beautiful hardy plants. The perennials can all be increased by root-division and by seeds, which they form freely; whilst the annual forms grow freely from seeds sown in the early spring. A few seeds of the perennial kinds dropped into crevices of walls would form plants in many an arid position, and prove to be objects of much interest.—
WILLIAM EARLEY, *Ilford*.

ON DRESSING FLOWERS.

W^HEN professional Florists well know that Carnations, Picotees, and Pinks are not the only flowers that require dressing, to assist Nature. The Aster, the Dahlia, and the Chrysanthemum have their full share of the tweezers. The former also are improved in appearance by being shown on cards; and such being the case, why should the practice of so showing either the Pink, Carnation, or Aster be abandoned? Now, if it was not for the use of the tweezers, &c., one-half of our Dahlias could not be exhibited fit to be seen, either from hard green eyes, cross eyes, split florets, quilled petals, &c. Then, if art can make these flowers presentable, why should the system be abolished? The Rose does not wholly escape the tweezers, as we are led to believe, but nature has so formed this flower that less art is required to bring it to perfection on the exhibition-table, but for any one to assert that Roses are shown as grown is perfectly absurd. Some persons may preach against dressing, but they all practise it, more or less. Ladies, like flowers, require tasteful dressing, to be seen to advantage; some require but little to assist nature, others all the art that Madame Rachel can bestow on them. The same with the different classes of flowers. We once were told that Pelargoniums should not be staked, but shown as grown. Just imagine a Pelargonium, 4 ft. through, on the exhibition-table, without a stake or tie! It is all very well for people to cry out against staking, tying, dressing, &c., but I say, let us improve nature, if we can.—EDWARD BENNETT, *Rabley Nursery, Shenley*.

THE REV. G. JEANS ON THE PHILOSOPHY OF FLORISTS' FLOWERS.

No. VIII.

“ ITH respect to the case in which more colours than one are associated in the same petal or blossom, the difference of effect is extreme between a tasteful arrangement, and the reverse; and taste in this sense, that is, as far as it is subject to certain and invariable rules, comes properly within the scope of this essay. These rules, as before observed, may be classed under the heads of *Combination* and *Contrast*; for though the difference between these two modes of harmony may not seem so obvious as is implied in the opposition of the words, yet there is a real and essential opposition, both in the principle of association and in the effect produced on the beholder. In either case, there must be a mutual adaptation between the colours; but in the one, it is to form a single compound idea; in the other, two separate and rival ones.

“ Whether for combination or contrast, the colours must be in juxtaposition, but not necessarily in contact. Colours that do not readily combine, may be seen to do so when there is an interval; and a contrast is often more striking when it is not only between the colours themselves, but between them as displayed in opposite parts of a flower. It is only requisite that the eye be able to take them in together.

“ 1. The first mode of combination is that in which the two join and yet are completely distinct, as in two parallel stripes of the African Marigold; or in which one colour is laid on another, as in the spotted or blotched Calceolaria. For the effect of such an arrangement to be pleasing, there must be a positive agreement or a positive diversity between the colours; if the former, they will combine; if the latter, they will contrast. And the peculiar power of combination is seen in this, that whereas the strongest diversity produces the most striking contrast, in harmonious colours the most striking effect is sometimes when the diversity is least. Thus, in a collection of Pelargoniums, amongst the strong contrasts afforded by the maroon and other dark-coloured spots, a crimson, or still more, a scarlet spot on a pink or orange ground, in which there is no contrast, and but little diversity, will be the surest to arrest and retain the eye. Some varieties of Iris, Ixia, and Gladiolus are remarkable for blending harmonious tints; indeed, the whole tribe of Irids and Amaryllids is as rich in every example of colour as the Orchids are in form.

“ 2. Another mode of combination is that in

which they become partially blended, and form a cloudy mass; which, if the constituents harmonise, gives the idea of richness, and is usually a mark of high quality. But if the cloudiness be only partial, it will run the risk of an appearance of mere unevenness of colour, which is a great fault; and if the constituents do not harmonise, the result will be flat and dull.

“ 3. The last form of combination is when they lose their separate existence, and produce an uniform new tint, in which case what has been said under the article of Colour in general is applicable. Every existing colour may be considered as compound, because every known, or indeed, conceivable one, may be made up of two others. And it is evident that the number of such must be unlimited, so that variety produced by colour must be unlimited likewise. And in Nature we find it so. The various shades of colour in a self-Verbena give it as much variety as a party-coloured one has.

“ It seems hardly determinable with precision beforehand what colours will combine and what will not, or even what will contrast, except that, as might be expected, every colour will contrast with white or grey; and therefore it may be taken as a rule, that a small white or grey interval will reconcile any two colours. Their position on the solar spectrum conducts but a very little way, and is not to be implicitly trusted even so far as that. It is a deficiency, however, of no consequence; for even if it were otherwise, our only appeal would be to experience, and that is our guide now.

“ Yet thus far is plain, that in contrasts the most dissimilar elements, as those from opposite ends of the spectrum, or dark and light, or any other contraries, produce the greatest effect. And further, that colours which will not combine into one idea, will often readily harmonise without an interval, if by their position a contrast be excited. Thus the green-edged Auricula is considered the most perfect form of the flower, because the refractory green is made to contrast with the ring of colour by the rings being separated into parts of co-ordinate value by being concentric.

“ To conclude, then, if it be asked which is the higher origin of beauty, I would say, contrast possesses the far greater range of effects, and has all the boldness, energy, and pungency on its side; but combination presents all the smoothness, elegance, and high-toned richness of colouring, and as far as I can analyse my own perceptions, excites the livelier emotions of pleasure. Contrast makes far more out of unpromising materials, and brings out their hidden and unsuspected powers, like

pitting them in a contest of skill; to combination appertains refinement, and the grace peculiar to high-breeding. Contrast, in short (to use a quaint similitude), has the virtues of democracy, combination those which may be called aristocratic.

"It is by contrast that the margin of a large-blottedched *Pelargonium* becomes so striking and effective, even when the beauty is enhanced, as it often is, by its being between colours that combine. There should, therefore, be no pencillings, nor any processes of the blotch breaking into it to mar its distinctness. It is by contrast that the white eye of others adds so much to their beauty. Neither of these properties has any positive value; it is relative, and depends on the contrast; and that in the throat is often formed entirely by the abruptness with which the colour terminates. Hence it is that a feather in the eye, however small, gives an appearance of poverty, because it detracts from the purity of the white, and by consequence from the contrast in which the effectiveness resides. Finally, it is to contrast, in a great measure, that the gorgeous splendour of the *Tulip* is owing; for its bold and bright colours being laid on the purest white or yellow, the extreme purity of the ground brings out with perfect effect the strokes of the pencilling.

"When combination and contrast unite in the same flower, which is far from rare, the order of excellence is such as to admit of the highest effect colours are capable of giving.

"The boundaries of science being now established, the province of taste may be inferred, as including all not restricted by the former. When the rules of science have defined what is invariable and necessary, a large field will still remain open for individual taste to luxuriate in without reproach; limited, indeed, on all sides from transgressing its proper bounds, but within its ample space unfettered. This is the region of taste, to which belongs whatever is not claimed by the more rigid exactness of scientific rule. It is the residuary legatee, when all specified claimants are satisfied.

"But beyond its legitimate sphere it can have no jurisdiction. Whatever Nature (which is the law of our Maker) requires, taste cannot dispense with as out of fashion; whatever it rejects, taste cannot patronise into a beauty. It may prefer colour to colour at its pleasure, and dispute over the rival claims of its several favourites, which have naturally an equal claim to admiration, but it is out of place when it demands precedence for an angular over a flowing outline, or for a disproportionate or an unmeaning shape over one of which every part has reference to the whole; nor ought it to be allowed to stamp a conventional value upon an incongruous assemblage of colours.

"A cultivated taste does not often err thus. And by a cultivated taste, I mean simply, one

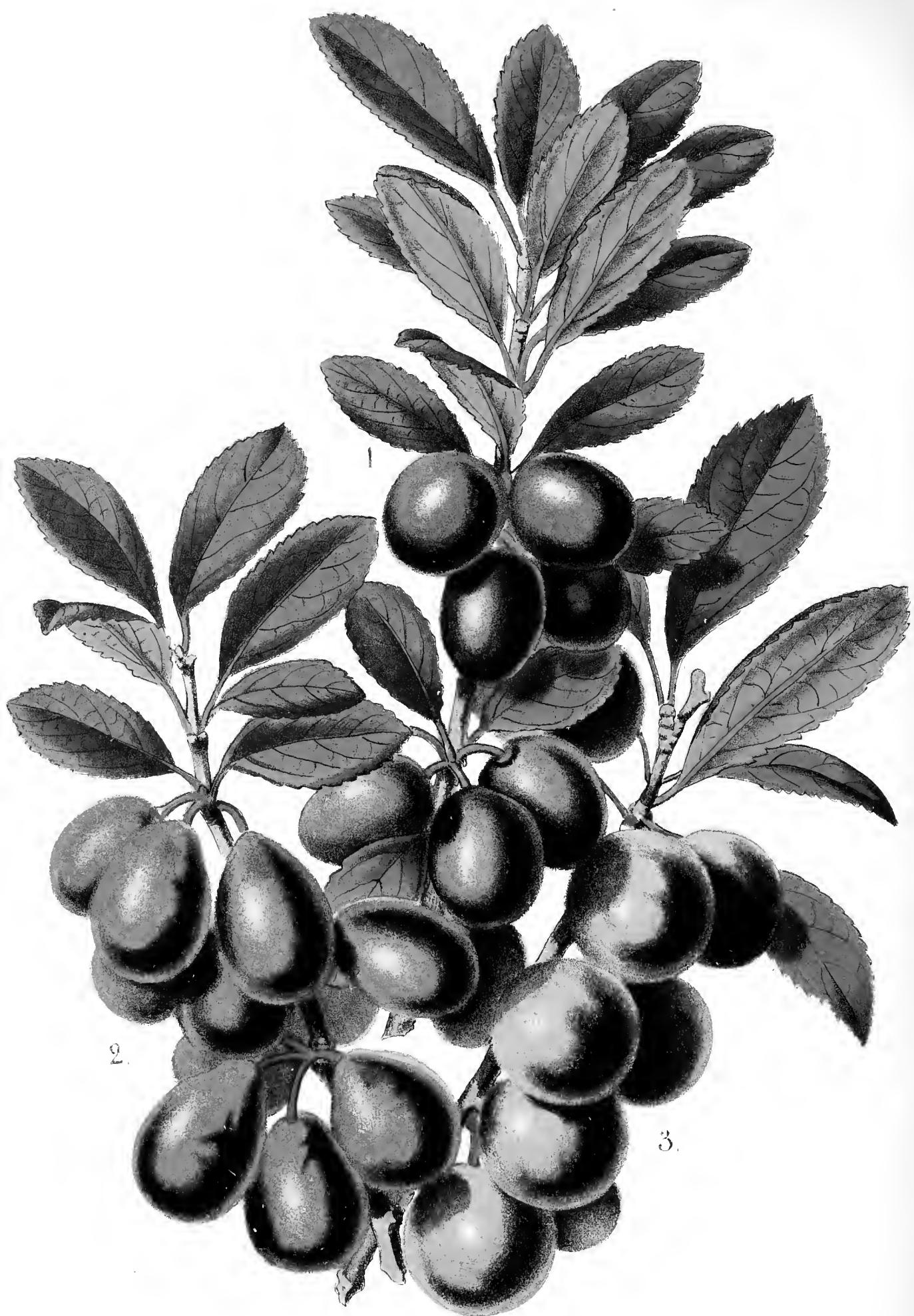
that is conversant with a flower in its varieties, and takes an interest in their observation. It is curious to observe the tact a person rapidly acquires in discerning anything that is really a natural defect, or the parent of a natural advantage, merely by frequent, unconscious comparison. And this is the origin of the agreement there is between florists in the 'points' of flowers. And the reason it is not more perfect is because the faculty is not equally cultivated in all, nor is it perfect in any. Mere observation has not the means of training the eye to completeness, for perfection has never hitherto been reached in the objects of its study. It is also partly owing to an erroneous as well as a defective standard. For in forming a standard of excellence of any particular florist's flower, the legitimate preferences of varying taste have generally been allowed a voice, which is a mistake.

"Reasoning, however, will help to supply the deficiency. Discussions on the subject, such as are constantly appearing in the pages of periodicals like *The Florist*, will always tend to promote such agreement, because there is a solid foundation at bottom, and therefore a true appeal to nature. There are in nature certain fixed laws applicable (and in practice already to a great extent applied) to the estimate of any flower. And the readers of such discussions, whether they agree to or dissent from what they read, so they but exercise thought upon it, are gradually acquiring for themselves the faculty of correctly judging whether those laws are infringed or not. Nor can any one have perused these papers without making an advance in a knowledge, of which, perhaps, at first he was inclined to dispute the existence.—IOTA."

MARKET PLANTS.—VIII.

THE FUCHSIA.

THE Fuchsia divides with the *Pelargonium* the honour of being the plant most largely cultivated for market purposes. A firm like that of Messrs. J. and J. Hayes, of Edmonton, with their extensive market trade, find it necessary to grow from eight to ten thousand Fuchsias, and even more—a prodigious number certainly, and representing, from the time the cuttings are put in for striking, till they are sent to market, much important and hard work. A large house of Fuchsias, and such an one, for instance, as can be seen at Edmonton, filled with plants that will be ready for market in two or three days, is a sight long to be remembered. Such a house will contain from 3,000 to 4,000 plants, in 48-pots, their proportions varying according to the habit of growth, the largest plants being



Damsons:

1. English. 2. Shropshire. 3. American.

2 ft. to 2 ft. 6 in. in height, handsomely proportioned, and laden with flowers. It is no wonder that they find such a ready sale, for these plants, when well finished, as the Messrs. Hayes and other growers finish them, are absolutely perfect as specimens. The *Gardeners' Chronicle* was recently deplored the falling-off in the culture of the Fuchsia, as represented at Horticultural Exhibitions, and there is too much reason for some such remonstrance being addressed to gardeners. The Fuchsia is not a difficult plant to do well, and there is scarcely any other plant that so well repays good cultivation in its valuable decorative properties. A few London market-growers of the Fuchsia should be sent into the provinces, to show gardeners how Fuchsias might be grown. Many of them are badly in need of the lesson.

The varieties grown for market-work by the Messrs. Hayes are chiefly *Avalanche* (double), *Wave of Life, Improvement*, a very fine dark variety; *Constellation, Prince of Orange*, a capital variety, said to be twenty years old; *Try-me-O* and *Sedan*, the latter a very fine and distinct variety. All the foregoing are characterised by that short-jointed, free habit of growth, out of which symmetrical specimens, large and small, can be made. The light varieties are not so numerous as the dark ones; they consist mainly of *Mrs. Ballantine* and *Mrs. Marshall* or *Arabella*, both of which are excellent for the purpose.

One great secret of success with the Fuchsia is to grow on the plants without rest, from the time the cuttings are struck till the plants are ready for market. The late Mr. Charles J. Perry, of Castle Bromwich, of Verbena renown, was one of the best amateur Fuchsia cultivators for exhibition of his day, and he used to strike his cuttings in August, and exhibit the plants the August following, having grown them $3\frac{1}{2}$ ft. to 4 ft. in height, of pyramid shape, and nearly 3 ft. through at the base. What Mr. Perry did, others can do.

The market-growers put in two main batches of cuttings, one in spring, to flower at the end of February and in March; the other in August, to flower through April and May. The cuttings are potted off into thumb-pots when rooted, and again into 60-pots, so there is little or no check; the plants to be marketed in early spring are got into 48-pots in early autumn, the others not till spring. It is during the time that the plants are in 60-size pots that they lay the foundation of the future specimens. The accomplished market-grower knows when and where to pinch to secure uniformity of shape; he is constantly among his plants, noting their progress day by day, and giving them any little attention necessary. How much is involved in this word "attention." Ask any market-grower the secret of his success, and he will reply,—"It

is the constant attention they receive." People are led to suppose that it is some peculiar mode of treatment that produces such results, or a system of feeding with stimulants, that forces the plants into good specimens in spite of themselves. The only stimulant applied is a little weak guano-water, given to the plants when they are coming into bloom.—R. DEAN, *Ealing, W.*

THE VARIETIES OF DAMSONS.

[PLATE 479].

 THE Damson which is the subject of the accompanying plate, is one of the most popular and widely cultivated of English fruits. Many hundreds of acres of land in certain districts of the country are devoted to its cultivation, but it is in our cottage homes, and in labourers' gardens, that the Damson is most prized, the crop of this fruit being looked upon as security for the rent. The Damson is a true English fruit. It is not found in cultivation on the Continent, or elsewhere, excepting America, where it has probably been introduced from this country. Of Damsons there are several varieties, all originating from the wild plum, *Prunus insititia*. Our plate represents three of the most important and distinct.

FIG. 1. THE ENGLISH DAMSON.—This is the most common variety, and is sometimes called the Round Damson, Common Damson, Black Damson, &c. The fruits are small, roundish-ovate; the skin deep purple, or nearly black, with a fine bloom. Flesh greenish yellow, acid, almost as austere as a sloe until quite ripe. It ripens early, and is a great cropper.

FIG. 2. THE SHROPSHIRE DAMSON, or Long Damson, Prune Damson, &c.—The fruits of this are much larger and longer than those of the common English Damson. It is of a long ovate shape, tapering mostly to the stalk; the skin thick; flesh thick, adhering somewhat to the stone. This is a variety of excellent quality, and the best for making preserves, but it is not such a prolific bearer as the Common.

FIG. 3. THE AMERICAN DAMSON.—With this variety we have not much personal acquaintance, having only fruited it one season. The fruits are large and round, the skin dark purple, and slightly spotted with brown. Flesh greenish yellow, adhering to the stone, juicy, melting, and sweetly flavoured. Mr. Scott, in his *Orchardist*, says it is synonymous with

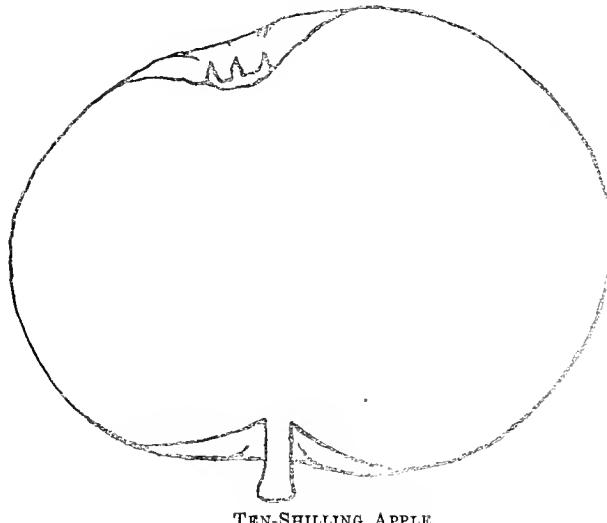
Frost Gage and Frost Plum, and "is a plum in much repute in New York market." It is rather a shy bearer.

CRITTENDEN'S PROLIFIC and ROCHESTER DAMSONS are varieties of great repute in Kent, being of large size, and very prolific.—B.

TEN SHILLING APPLE.

 HIS Norfolk Apple is noticed by Mr. Lindley, in his *Guide to the Orchard*. The name of course is local, and may perhaps be traced to the boast of the raiser that a young tree of it was worth ten shillings. Anyhow, it is an excellent kind both for kitchen and dessert use. In fact, some persons prefer it to the far-famed Ribston Pippin, from its being more mellow in texture. There are no fixed rules for taste. I consider that the flavour of the Ten Shilling comes near to that of Lady Wemyss, a favourite Fifeshire apple, perhaps unknown in this quarter.

I have an old hollow tree of the Ten Shilling, with a flourishing and fruitful top. The outline figure represents one of its fruit



TEN-SHILLING APPLE.

rather under size. It is flattish, angular, and "purse-mouthed," or "puckered-crowned"—an old Scottish term for such kinds of apples, when a purse was a money-bag tied with a string, but one now seldom used by writers, though it might serve their purpose equally with that of a "closed eye in a basin crown." The colour of the Ten-Shilling is greenish russet, tinged with red where exposed to the sun. It ripens in October, and though then fit for use, lasts on till January, a rare property, though found in some other kinds of autumn apples.

Any one wishing for a few scions of the Ten-Shilling Apple may have them free of cost, except postage, on applying to J. WIGHTON, *Cossey Park, Norwich*.

RIVERS' NEW PEACHES AND NECTARINES.

 HREE years ago I promised to note and give to the FLORIST the periods at which Mr. Rivers' new fruit would ripen in my orchard-house. But even under glass the two following springs were so protracted and cloudy, that several kinds cast their fruit which I considered safe, and so my report would have been too imperfect to be useful. To prevent another disappointment, I introduced last winter a flow-and-return hot-water pipe, and the result has been a liberal supply of fruit generally, including specimens of all the new introductions. The artificial heat besides anticipated the ripening season by a fortnight. I will now give you the dates of gathering the first specimen of each variety:—

PEACHES.	NECTARINES.
Early Beatrice, June 21.	Advance, July 13.
Early Louise, July 2.	Lord Napier, July 27.
Early Leopold, July 3.	Improved Downton, Aug. 12.
Early Alfred, July 22.	Dante, Aug. 16.
Rivers' Early York, July 23.	Stanwick Elrige, Aug. 18.
Magdala, Aug. 1.	Darwin, Aug. 16.
Merlin, Aug. 9.	Pine-Apple, Aug. 26.
Goshawk, Aug. 30.	Victoria, Sept. 3.
L. Palmerston, Sept. 24.	Albert Victor, Sept. 4.

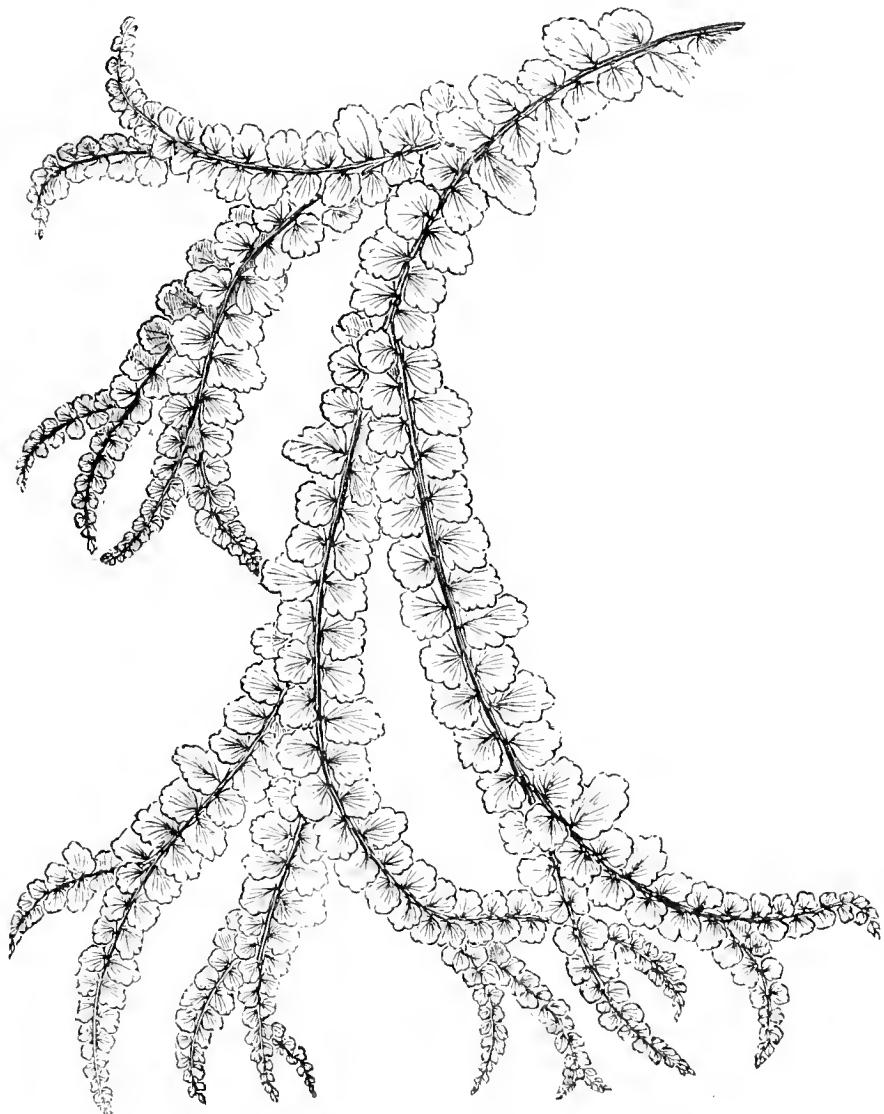
These all originated with Mr. Rivers. The great advance gained by his life-long exertions is manifested in the extended season of that delicious fruit, the Nectarine, which the orchard-house will supply for seven weeks. My list describes nothing but first-rate fruit of good size—some very large. The trees are vigorous. Advance, the first on the list, is the last introduction; it is large, rich, and deeply coloured. It gained a fortnight on Lord Napier, our former earliest. Victoria and Pine-Apple require a wall. Of the earliest Peaches I cannot yet speak so favourably, but the well ripened wood of the present season will perhaps work an improvement. But Rivers' Early York is early, and combines all the desirables of a perfect Peach. Goshawk, Magdala, and Merlin are excellent.

My conviction is, as regards orchard-houses, that if required to perfect the finest Peaches, a little heat is indispensable. With that aid,

Figs and second-crop Grapes can be fully matured. Cold orchard-houses will grow Peaches on the wall, and some of the good old kinds as standards. But Plums (and how delicious some of the new introductions are !) can be had with certainty and in profusion, and are free from all the disappointments which attend Peach-culture.

Allow me the detail of a discovery which

has wonderfully lessened the labour of my houses, by the certain and easy destruction of all the pests which no watching has ever before extirpated. It is a tobacco-wash, sold by Messrs. Griffiths and Avis, of Coventry. One pint to two gallons of water, applied forcibly through a small powerful syringe, clears off every variety of aphis, and the other plagues which belong to glass structures.—G. D.



NEPHROLEPIS DUFFII.

HIS very distinct and apparently sterile *Nephrolepis* was obtained from Duke of York's Island by Mr. Duff, an *employé* of the Sydney Botanic Garden, after whom it has been named, and proves to be a very elegant addition to our stove ferns.

The fronds are numerous, tufted, herbaceous in texture, about 2 feet long, with a stipe of 6 or 8 inches long, a narrow linear lamina of about a foot long, and a multifidly branched apex of 4

to 6 inches long. The lamina and branches are about half-an-inch broad, pinnate, the pinnae small alternate or nearly opposite, growing in pairs, that is, two are attached side by side to the rachis and overlap each other, about a quarter of an inch long, rounded, somewhat broader than long, crenately toothed, and sterile in all the specimens we have seen. The lower pinnae are distant, smaller; those of the apical branches especially more crowded. The

upper end of the fronds is twice or thrice forked, the extreme tips being again divided. The veins in the rotundate pinnæ are flabellately forked, each terminating within the margin in a thickened apex; those of the occasional accidental elongated pinnæ being pinnately branched.

The fascicles or tufts in which the plant grows consist of numerous fronds, which are gracefully arching, forming a very elegant mass, and from the base of these fascicles are produced the elongated thread-like stolons characteristic of this genus. Indeed, from its barren condition, these and other peculiarities of habit are the only indications of the genus to which it is referred. It has, so far as we can learn, no tubers, and hence is possibly not, as we were inclined to suppose, an abnormal form of *N. tuberosa*. In aspect it is quite analogous to the narrow-fronded and sometimes multifid *Athyrium Filix-femina Frizelliae*. We have to thank the Messrs. Veitch and Sons for the specimens from which these descriptive notes have been drawn up.—T. MOORE.

THE FRUIT SEASON OF 1878.

THE spring was most ungenial. I knew by the absence of bees, that the weather which was ungenial to them would be unfavourable to the blossoms of fruit. As regards fruits in general, I may observe I have had admirable crops of Plums, Currants of all kinds, Strawberries, Raspberries, and Gooseberries. The two last were the finest crops I ever had. The raspberries are *Fastolf*, *Red Antwerp*, and *Fillbasket*. The gooseberries (the late Mr. Rivers' selection) are *Walnut Green*, *Whitesmith*, and *Red Warrington*. They are all admirable, and ripen as placed. *Walnut Green* is, I think, the best-flavoured of all; *Whitesmith* is the best-flavoured of the Lancashire show sorts, and *Warrington* is the best finisher. He also sent me the *Red Champagne* and *Ironmonger*, both excellent in flavour, but too small. The only difference between them was, one was pubescent and the other impubescent, one was of branching habit, and the other of erect habit, the flavour being identical. *Ironmonger* is the best bottler or preserve gooseberry known.

I cannot mention Mr. Rivers without acknowledging how much I am indebted to him

for almost all the fruits in my garden, many of them his kind gifts; indeed, I may say the best fruits in my garden were his gifts. He has few more sincere mourners than Mr. Bréhaut and myself. But I must proceed.

Many of the pear-trees failed, but the following are splendidly cropped, especially the first I name, which is one of the best to have, namely—*Beurré Hardy*, *Gratioli*, *Beurré Mauzion*, *Beurré d'Amanlis*, *Poire Peche*, *Marie Louise d'Uccle*, *Comte de Lamy*, *Albertine*, *Duchess of Orleans*, *Beurré Bachelier*, *Beurré Diel*, *Souvenir du Congrès*, *Thompson's*, and *Dr. Rousseau*. They are all on the Quince stock. I was not aware they were so well cropped when I sent an account to the *Gardeners' Chronicle*. Many of the pear-trees are black-blighted. Three of the best pears here—namely, *Joséphine de Malines*, *Beurré Superfin*, *Doyenne du Comice*, are poorly cropped.

Apples (early) are a failure, but the late orchard apples are a splendid crop. The best cropper chiefly is called the *Corton Pippin*, which makes excellent cider. I cannot find its name even in Mr. John Scott's exhaustive list, and suppose it is a local name. I have sent some twigs to Mr. Scott for propagation, and possibly I may some day hear its proper name.

I must now refer to the kings of fruits, Peaches and Nectarines, which are objects of my special care and delight. I have been twenty-seven years studying them; and I am glad that they require study and attention all the year round. The vigour of the trees, and their beautiful foliage [magnificent—ED.] will show that they are looked after. I hardly ever have any blister, for the trees being in such good condition, they are able to withstand the effects of severe weather, both in the winter and in the spring. The spring, as I have already observed, was most ungenial; we had no sun to ripen the male dust, without which impregnation cannot take place. From Mr. Bréhaut's "Peach-Pruner" (p. 17), I glean the following:—"The flowers are composed of floral envelopes and sexual organs. The floral envelopes are the calyx and corolla; the divisions of the calyx are known as sepals, and those of the corolla as petals. The sexual organs are the stamens and the pistil. The stamens are the male organs, which are many, and surround the pistil or female organ, which is a unit, in the centre of the stamens. The anther at the extremity of the stamens contains pollen, or fertilising dust. The pistil is the female organ of plants, the extremity of which is called the stigma, and the base the ovary,

which contains the embryo fruit, while the intermediate space is called the style." Unless there is, therefore, sufficient sun to ripen the pollen of the male organs, which pollen must be transferred to the stigma of the pistil, there can be no impregnation, though the flowers be millions. Bees and gentle breezes greatly aid in the transference of the pollen.

I am surprised that Mr. Bréhaut's "Peach-Pruner" has not gone through many editions. I am a short-pruner myself, for which, as well as for long-pruning, the work contains admirable directions. Buy it, reader; it will only cost you, post free, 3s. 8d. I may say that I was a short-pruner long before this most useful work came out, but I am thankful for its confirmation. My peach crops under glass (without heat) have been very good, especially the *Early Silver*, *Royal George*, *Barrington*, *Early Alfred*,* *Early Louise*, and *Grosse Mignonne*. The Nectarines both indoors and outdoors have not cropped well. As regards Peach trees "to go anywhere or do anything," as the Duke of Wellington said of the English soldier, I believe the *Royal George* has no superior; but under glass, being without glands, it is subject to mildew, which I meet simply with cold water and a sponge. I have seen enough of nostrums. The remedies I have found to be worse than the diseases! These trees have cropped best out-of-doors—*Early York*, *Barrington*, *Princess of Wales*, *Bellegarde*, *Royal George*, and *Early Alfred*. I have eleven trees under glass, and 125 out-of-doors; but the failures are many, and the successes few. Many trees set their fruit, and then dropped them, specially Cherries, and also other fruits. On the whole, I am quite satisfied, and grateful to the Giver of all good things, and the Wisest Dispenser.

I have just finished the season with Lady Palmerston (Oct. 4). My best late Peaches are *Barrington*, *Nectarine Peach*, *Princess of Wales*, a sure cropper, magnificent, and has the finest large flowers, *Lord Palmerston*, and *Lady Palmerston*, the last has yellowish flesh. I began the season on July 29th with *Early Louise*. The trees are abundantly triple-budded, and very healthy. All the trees have been deprived of the points of their leaves, in order to ripen the wood. The wood, to stand the winter, should be blood red, or at least the colour of mahogany. When the twigs have been shrouded with leaves, the wood looks like sickly green sealing-wax, and is unripe, and will neither stand a severe winter, nor bear well, although such wood will flower well.

I will now give a list of the Peaches and Nectarines here:—

PEACHES: *Noblesse*, *Grosse Mignonne*, *Golden Frogmore*, *Lord Palmerston*, *Lady*

* This has been erroneously described as having round glands, but all my trees are alike without glands.

Palmerston, *Princess of Wales*, *Nectarine Peach*, *Royal George*, *Early York*, *Bellegarde*, *Alexandra Noblesse*, *Golden Eagle*, *Tippicanoe*, *Crimson Galande*, *Early Ascot*, *Early Silver* (fine flavour), *Early Louise*, *Barrington*, *Early Alfred*, *Violette Hâtive*, *Early Beatrice*, *Prince of Wales*, *Snow Peach* (white blossoms, curious, but worthless), *Albatross*, *Early Victoria* (like the *Early York*), *Gregory's Late*, *Dr. Hogg*, *Magdala*, *Early Rivers*, *Radelyffe*, *Late Admirable*, *Walburton Admirable*, and *Acton Scott*.

NECTARINES: *Elruge*, *Violette Hâtive*, *Downton*, *Emmerton's White*, *Rivers' White*, *Prinee of Wales*, *Rivers' Orange*, *Rivers' Pine-Apple* (the finest of all), and *Lord Napier*, the true colour of which is blood-purple. Those portrayed in the *FLORIST* were grown, I presume, under glass, and hence are not so highly coloured, light being the colourer, as sun is the sweetener.

For genial gardens, or under glass, I strongly recommend the *Early Silver Peach*; for an early peach out-of-doors, the *Early Louise*—it also crops well under glass. Finally, I highly recommend Parham's glass copings. My friend Mr. Connop, of Fifehead Neville, near here, has had a splendid crop this year, under the glass copings of Mr. Parham.—W. F. RADCLYFFE, *Okeford Fitzpaine*.

VILLA GARDENING FOR NOVEMBER.

AS we write, the weather is so fine—so soft, balmy, and pleasantly dry for October—that one could well wish it would remain so for a long time. If it would only linger a little, before the prime, the full fruitage and the red ripeness darkens to the decay and blackness of winter! But the change presses forward. Summer's flame has deepened to autumn's crimson, and the flush of colour becomes extinguished in shadows that come before frost and storm.

It is now a good time for gardeners; they can now get rid of some of the weeds that have defied all extinguishing processes during the summer; leaves can be gathered together; and the cleanliness that will result, will make some amends for the general untidiness of the past summer.

STOVE AND GREENHOUSE.—A warm greenhouse or stove, to which fire-heat can be applied at all times, makes the Villa Gardener independent of weather. But many are apt to abuse this advantage by firing-up too much, and killing half the plants by maintaining too dry and debilitating an atmosphere. This is to be avoided. In a stove there will now be *Crotons*, *Dracanas*, and such like winter decorative plants, most of which will be in a free growing state; and where the new growth is

short-jointed, healthy, and strong, the plants should have every encouragement, by placing them near the glass in a strong light, and keeping them a little dry. The plants should now be arranged, as far as it can be done, to afford winter decoration; keeping them as uniform and neat as their habits of growth will allow, tying into shape as may be necessary. By changing the position of the plants occasionally, a little relief to the otherwise monotonous appearance of the house can be brought about. Do not overcrowd the house; it is much better to have a few plants in good condition, than many wanting in general attractiveness.

COLD GREENHOUSE.—The elements are dealing tenderly with this structure, and flowers come forth far beyond the allotted time. A number of *Colchicums*, both single and double, in pots, have been very attractive, with the blue-purple *Crocus speciosus* among them. *Zonal Pelargoniums*, *Fuchsias*, and *Tuberous-rooted Begonias* are still gay, and with them are associated the *Abutilons Boule de Neige*, white; *Lemoinei*, yellow; and *rosaflorum*, rose—plants that are extremely well adapted for a cold house at this time of the year, and which simply require to be kept well watered and free from green-fly. When these are over, the berried *Solanums* and the *Chrysanthemums* will succeed them; with *Primulas* of several kinds, and *Cyclamens*, to follow on. *Fuchsia Dominicana* is flowering also; and *Aralia Sieboldii* is throwing up its curious ivy-like flowers. Cleanliness here also is of great importance, for by keeping the shelves of the house clean, the plants clear of decaying leaves, the surface-soil stirred, and all neat and tidy, the appearance of a house will be greatly improved. A few *Hyacinths*, *Polyanthus Narcissi*, *Tulips*, *Crocuses*, and *Scillas* should be potted, to help the floral succession in spring. Not only are these plants very gay and effective in their season, but they are also easily grown, and there is little else to take their places. As soon as the bulbs are potted, they should be stood away in some odd corner, on boards or slates resting on a good layer of cinder ashes, and covered over with the same to the depth of 2 in., when they should be left untouched for six weeks or two months.

FLOWER GARDEN.—The bedding plants linger on and bloom as if it were hard for things so fair to make haste to die; and indeed, the variegated *Pelargoniums* of all sections have been very pretty for the last month, and are likely to continue so. Any plants it is desirable to winter in pots should be lifted ere frost and wet destroy them. This is a good time of year to replant borders of hardy plants, lifting them and deeply digging and enriching the ground with dung and leaves, and then re-planting. *Roses* should now be planted. It is always well to get this done as early as pos-

sible, as new roots are put forth, and they get well hold of the soil before winter. In making plantations of *Roses*, let there be among them some of the best of the tea-scented varieties worked on the seedling brier, to give flowers in autumn. *Bedding Pansies* and *Violas* that have bloomed well during the summer should be lifted, pulled to pieces, and replanted in a nursery-bed, to establish themselves, and they will be found most useful for planting out in early spring.

COLD FRAME.—During autumn, winter, and spring the cold frame is a most useful adjunct to the villa garden, and it can be made an excellent feeder to the cold greenhouse. A look over the occupants of our own cold frame can be turned to account, to show something of the hardy plants grown in pots that do so well to flower in early spring. There are double and single *Primroses*, some of the latter already in bloom, *Scillas*, *Triteleia uniflora*, the pretty *Gaultheria procumbens*, with its white flowers and small coral berries, *Auriculas*, *Polyanthus*, *Primulas* of various kinds, *Anemone fulgens*, and *A. apennina*, and others too numerous to mention. Some of these are active in growth, and others will commence to grow shortly, and there will be no pause in the floral procession, till it is lost in the throng of flowers that come forth to greet the swallow's return.

KITCHEN GARDEN.—*Carrots*, *Parsnips*, *Beet*, *Jerusalem Artichokes* should now be lifted and stored, if not already done, taking advantage of any dry weather to get the ground dug and thrown up roughly. *Celery* should be finally earthed up, and made snug for the winter. Those who grow *Endive* should tie up a few of the forward plants, to induce them to blanch for immediate use. *Cabbages* and *Broccoli* are benefited by hoeing between them, and earthing up with soil a little. Young *Cabbages* can be planted out thickly, and the forwardest pulled out by-and-by, to make room for the others. *Seakale* and *Rhubarb* plants may be prepared for forcing by clearing away all decaying leaves about the roots, and placing round them litter and leaves a foot or so in depth; they can then be covered over with forcing-pots, &c., when convenient. During dry weather ground should be cleaned, and all rubbish not fit for turning into vegetable refuse burnt.

FRUIT GARDEN.—It is said that fruit is not keeping well this season, and *Apples* and *Pears* should be gone over occasionally, to remove those that are decaying. Fruit-trees are best let alone till the leaves fall, but the ground may be prepared for making new plantations. All fruit-trees will move well now, and the earlier the work is got through, the better. Towards the end of the month, any pruning necessary to be done should at once be proceeded with.—**SUBURBANTS.**

GARDEN GOSSIP.

THE meeting of the ROYAL HORTICULTURAL SOCIETY on October 15 was a most attractive one, the council-room and spacious vestibule being quite filled. The show of Grapes from Messrs. Lane and Son, of Great Berkhamstead, of Pine-apples (the new variety Lord Carington) from Mr. Miles, and of Apples and Pears from Mr. Goldsmith, Messrs. W. Paul and Son, Messrs. Paul and Son, Messrs. Veitch and Sons, and Mr. Lane, were very meritorious. Amongst plants, the most remarkable was a finely bloomed *Vanda corulea*, from Mr. Smith, gardener to C. Lane, Esq., Badgemoor, Henley-on-Thames, the same plant which was last year awarded a gold medal, and which this year was again shown in perfect health, with five spikes, bearing 87 flowers—a notable feat in orchid-growing. No higher award could be given than the plant had already received. First-class Certificates were given to *Anthurium Scherzerianum album*, from Messrs. Veitch and Sons, the spathes now assuming some size, and attesting the ornamental quality of good varieties. To *Lastrea aristata variegata*, from both Messrs. Veitch and Sons and Mr. Bull, a fine Japanese evergreen fern, with a yellow-green bar down the costa, forming on the dark ground-colour a pretty variegation. To *Bomarea Carderi*, a grand, warm greenhouse climber, with a great branching inflorescence of pale rosy flowers of much beauty, and having foliage rivalling that of *Lapageria*; both Mr. Bull and Mr. Green, gardener to Sir G. Macleay, exhibited this. To *Lastrea crinita*, from Mr. Bull, a stately robust hothouse fern, with a stout erect caudex, and bipinnate fronds set shuttlecock-fashion, and having thick stipes, bristling over with subulate scales. To *Mamillaria sphacelata*, from Mr. Boller, Kensal New Town, a tufted species, with oblong stems 3 in. to 4 in. high, and 2 in. in diameter, covered with tufts of radiating white hair-spines. To *Pernettya mucronata lilacina*, from Mr. Davis, of Hillsborough, a variety with pretty pale rosy-lilac berries; it was accompanied by several other forms, with berries varying much in colour. A Botanical Certificate was given to Messrs. Veitch and Sons for *Phalaenopsis violacea*, a singular plant, with broad glossy green drooping leaves, and whitish flowers tipped with green, the curiously shaped lip purple, as also is the inner margin of the two lateral sepals near the base. From the same collection came *Phalaenopsis Esmeralda*, with spikes of small purplish flowers. Messrs. Veitch also showed a hybrid *Cattleya Mastersoniana*, with rosy sepals and petals, and a remarkable quadrately expanded lip, the front lobe of which was purple. Pretty groups were shown by Mr. Williams, who had quite a display of *Pleione*s; by Mr. Bull, and others. Messrs. Laing and Co. had a fine display of Begonias, and Messrs. Veitch and Sons had a large and most interesting group of young plants of hardy evergreen shrubs, a basketful of each. Messrs. W. Paul and Son sent several boxes of beautiful Cut Roses, and Mr. R. Parker had a very large and showy collection of cut specimens of hardy herbaceous plants. From Mr. Sage, of Ashridge Park, came a handsomely grown pot vine, with eleven excellent bunches; and a First-class Certificate was given to a high-coloured apple, grown at Chiswick, and named Baumaun's Red Winter Pearmain.

SINCE BURNT CLAY is a material of great value in the amelioration of heavy clay soils, a brief explanation how the operation of burning is carried out, may be useful to the inex-

perienced. About London the work is done at any convenient season, but preferably in autumn and in dry weather. The soil is dug out to a depth of 6 in. or 8 in., then a thick layer of brushwood is placed on the ground, and over that a layer of fine breeze or coal; this is followed by a layer of clay, then more breeze, followed by more clay, and so on, until a heap or ridge is formed. The brushwood is then ignited, and this fires the breeze or coal, and the whole heap gradually becomes a burning smouldering mass. Care must be taken that the fire does not burn through at any point. The cost in the neighbourhood of London is about 3s. a yard

— “BOSCOBEL” is the title of a little book published by Simpkin and Marshall (London) and Lowe (Slifnal), and giving an account of Boscobel House, and the Royal Oak in an adjoining field, in which King Charles II. took refuge after the battle of Worcester. The author is the Rev. H. G. De Bunsen, Rector of Donington, in which parish the house is situate. Of the house it is said that it is the same house, and very much in the same condition, as when Charles II. visited it. It seems to have been built for the purpose of hiding Popish recusants, and was called Boscobel from the Italian *bosco bello*, because it was seated amongst fair woods. Of the tree, we read that it stands in the field adjoining the garden, and is surrounded by a substantial iron palisading, but whether it is the identical tree in which the King took shelter, or whether it is another which stood by its side, or has sprung up since, is a moot point, and the different records relating to this matter form the principal and most interesting part of the little book. Stukeley's evidence (1776), to the effect that “the oak is in the middle [of the enclosure], almost cut away by travellers,” and that “close by its side grows a very thriving plant, from one of its acorns,” seems to show that the original tree is not that which now bears the name of the Boscobel Oak, an engraving of which is given in the *Gardeners' Chronicle* for October 19, 1878.

— THE following mixture is said to be a sure remedy for DESTROYING GREEN-FLY on plants:—Soft soap, $\frac{1}{2}$ lb., dissolved (not boiled) in soft water; strong tobacco (common shag), 2 oz., boiled for an hour with 1 oz. of bitter aloes; 3 gallons of warm soft water. Mix thoroughly, and then dip or syringe the plants affected with fly. These ingredients are inexpensive and easily obtained, and the mixture thoroughly efficacious.

— THE BOSSIN CABBAGE LETTUCE was found to stand best, among the large number of varieties tried at Chiswick this season. It was singular to note that while heads of all other varieties had bolted off to seed, the Bossin was as unbroken as when it was hearting-in. It is not a taking-looking lettuce, being somewhat large and coarse, with brownish-tinted fringed leaves. Of its standing qualities there can be no doubt, and after all, it is the inside of a lettuce that salad-eaters are most concerned about.

— THE GOLDEN JAPANESE Box is described by Mr. Syme as being remarkable for the brightness of its colour; indeed, it is the brightest golden plant in his collection. Quantities of it, from 8 inches to 1 foot in height, grouped together, look like a mass of burnished gold. This box, retaining, as it does, much of its brightness and beauty throughout the winter, when there is such a paucity

of colour, might be effectively used as a permanent bedding plant.

— ONE of the most troublesome of garden pests is the SLUG. A recent writer remarks there is nothing better to get rid of Slugs than a sprinkling of sifted coal-ashes run through a half-inch sieve, just sufficient to cover the surface; and it is equally effective against worms coming out at night, and drawing the plants back with them into their holes. Nothing of a soft, slimy nature that crawls over the earth's surface will willingly face the sharp jagged edges of the ashes, which may be used freely among young growing crops in autumn and spring with beneficial effects in other ways; for besides guarding the plants from these attacks, coal-ashes attract the rays of the sun, keep the soil from baking, or its pores becoming sealed up after heavy rains, and tend to check any bad effects from too much water lodging round the stems or collars of the plants. Those who are troubled in this way are strongly advised to sprinkle coal-ashes amongst all their young crops; it will be found both a good and cheap remedy, and one always available. Pepper has also been recommended.

— IN Ireland, at Valentia, the Lily of the Nile, *RICHARDIA AETHIOPICA*, which there grows almost wild, is so floriferous that at times as many as 115 flowers have been counted on a single plant. The individual blooms of the present year have measured round the edge of the spathe 36 in.; longitudinally across the throat, 10³ in.; and transversely, 6¹₂ in. So says the Knight of Kerry.

— As a forcing plant, HARRISON'S NEW MUSK is found to be useful by Mr. McIndoe, of Hutton Hall Gardens, who employs it largely in this way, putting in cuttings in October, which quickly grow into fresh and vigorous young plants; these flower with great freedom in winter and spring, and are very useful for conservatory work.

— THE most distinct NEW TUBEROUS BEGONIAS noted amongst those exhibited at the recent Versailles show were *Madame Thiers*, a large semi-double pink, which may not inaptly be described as Anemone-flowered; *Défenseur de Belfort*, a very large orange-scarlet; *Edmund Puteaux*, of the same size and style as the last, but of a darker shade of colour; *M. Albert Truffaut*, a fine scarlet, with a light centre; and *Amie Cessier*, a nicely-formed orange-scarlet. These are all good, but *Madame Thiers* is the best. The exhibitor was M. Lateaux-Chambault.

— THE following is a well-attested recipe for making SIBERIAN CRAB JELLY:—Take off the stalks, weigh and wash the crabs, then to each pound and a half add a pint of water, and boil gently until they are broken; do not allow them to pulp, but pour the whole into a jelly-bag. When the juice is quite transparent, weigh it, put it into a clean preserving-pan, and boil quickly for ten minutes; then take it off the fire, and stir in, until it is dissolved, ten ounces of fine sugar to each pound of the juice; boil the jelly from 12 to 15 minutes; skim it very clean, and pour it into the moulds. Should the quantity be large, a few additional minutes' boiling must be given to the juice before the sugar is added.

— A FINE specimen of the Indian *MAGNOLIA CAMPBELLII* is growing in the gardens at Lakelands, near Cork, the residence of W. Crawford, Esq. This tree has been planted out about six or seven years, and so rapid has been its growth, that it is now a tree, with noble leafage and imposing aspect. Viewed as a deciduous tree of fine proportions and faultless symmetry, when seen merely in its summer clothing of exceptionally large and fine foliage, its value as an ornamental object is apparent; how much more so, when in spring, before the leaves appear, it is decked with glorious-capped flowers, six to ten inches across, varying in colour from white to deep rose or crimson, and exhaling an agreeable fragrance! The Lakelands specimen has not yet flowered.

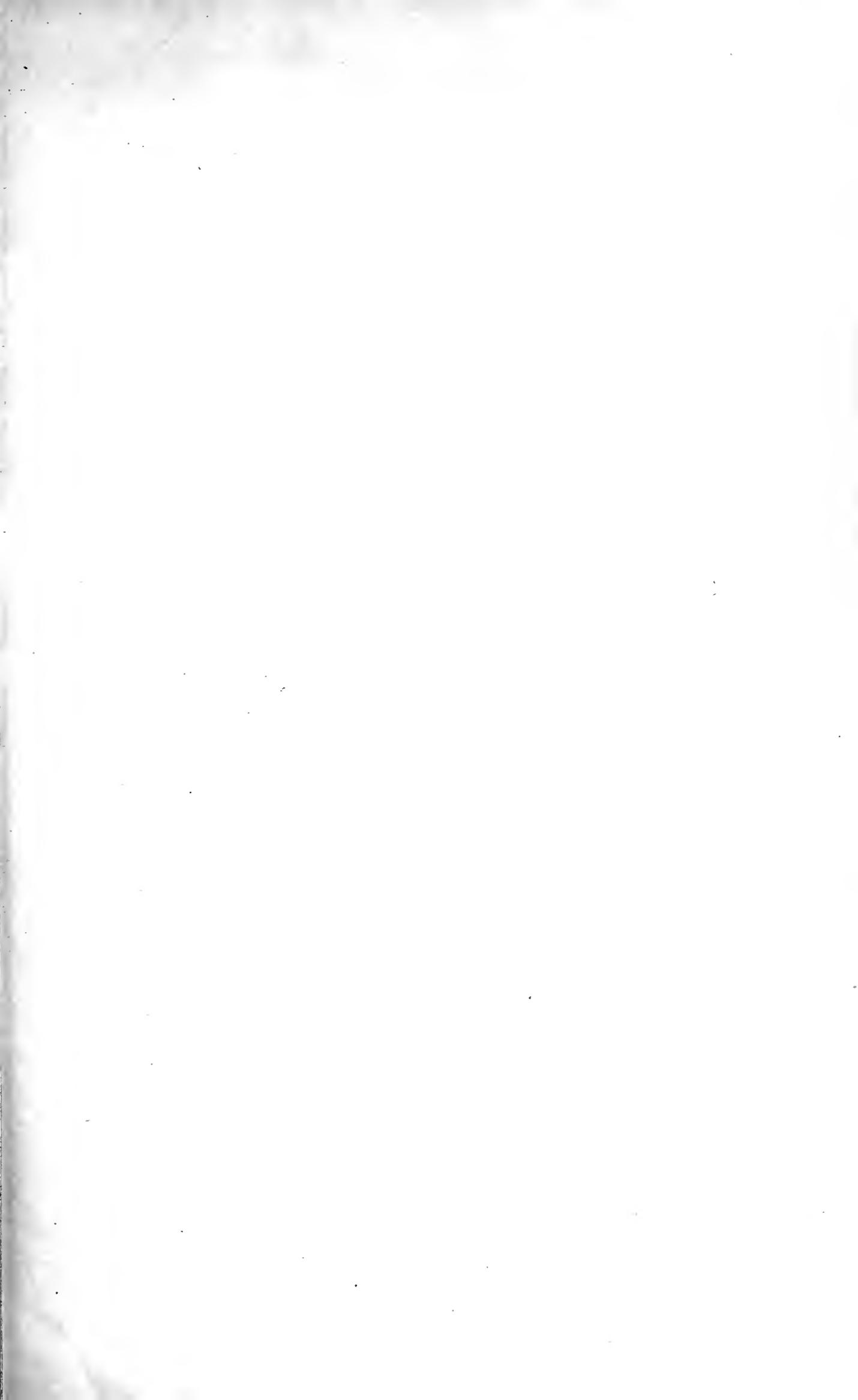
— A CORRESPONDENT of the *Gardener*, writing of VINE BORDERS of light loam, states that when made up of sods, they keep in good condition much longer than when the materials are chopped up and mixed. He used sods cut into pieces 6 in. or 7 in. square, and packed closely together in layers, with the grass-side down, the manure and bones used being strewn on each layer of sods, and a little fine soil used to fill up any open spaces, the object being to get a solid and firm mass, so as to exclude the decomposing power of the atmosphere. Vines planted in borders thus made are not only equally strong with those planted in loose chopped turf, but the character of the wood is far better, being harder, with less pith. As to the roots, those in the chopped soil have produced comparatively few large ones, and but few fibry ones near the stems of the vines, while in the solid border there is a perfect network of roots up close to the collar of the vines. "I would never," he adds, "when working with light soil, chop a single turf, but use them as they come from the field, and make the whole as solid as possible; neither should any description of lime be used, but instead some charcoal and bones."

Obituary.

— M. GUSTAV WALLIS, the botanical collector, died on June 20, at Cuenca, in Ecuador. His explorations in South America have been the means of introducing several hundred new South-American ornamental plants to our gardens and plant-houses.

— MR. THOMAS BELT, the well-known traveller, naturalist, and geologist, died at Denver, Colorado, of rheumatic fever, on September 22, in his 46th year. He was son of the late Mr. George Belt, a nurseryman and seedsman, of Newcastle-upon-Tyne, and in 1851 joined in the first great gold rush to Australia, since which time his life has been that of a hard-working, successful mining engineer.

— MR. W. WINDEBANK, Jun., of the Bevois Mount Nursery, Southampton, died at Salisbury, on October 10, at a comparatively early age. While in health, he was an ardent florist and horticulturist. The Chinese Primula was one of his specially favoured plants, and the collection of some fifteen or sixteen divers kinds and colours which he formerly preserved, and reproduced from year to year with great care, was perhaps unrivalled for variety or excellence in the kingdom.





Carnations:

1, Samuel Barlow. — 2, James Douglas. — 3, Rev. F.D. Horner.

C. T. Rosenberg del.

P. De Pannemaeker, Chromolith. (Gand) Belgique.

CHOICE NEW CARNATIONS.

[PLATE 480.]

UR plate represents three varieties, the production of the well-known and veteran raiser—though young in years—Mr. Benjamin Simonite, of Rough Bank, Sheffield. Of these Mr. Dodwell remarks:—“Mr. Rosenberg has caught and very happily delineated the habit, smoothness, and markings of these beautiful varieties, but the colouring in the chromoliths is not happy. Neither in the Crimson Bizarre, Samuel Barlow, or the Purple Flake, James Douglas, are the tints so bright as in Nature; but this is rather a misfortune than a fault, for Nature is inimitable in her colours.

“JAMES DOUGLAS (fig. 2), a Purple Flake, was sent out in the autumn of 1876, and in my collection this year, as also in that in the charge of Mr. Douglas at Loxford Hall, was undoubtedly the finest of its class. Nothing could surpass

its lovely bright purple, sparkling white, and decided markings; it was also of the largest size.

“SAMUEL BARLOW (fig. 1), as well as the REV. F. D. HORNER, are as yet in the raiser’s hands. The former, a noble Crimson Bizarre, follows the habit and character of J. D. Hex-tall, c.b., another of the fine varieties raised by Mr. Simonite, save that the purple or maroon of the bizarre is of deeper tint, and will, I am persuaded, be greatly valued when it is accessible to cultivators of these popular flowers. As shown in the plate, Samuel Barlow appears small, the figure having, I learn, been drawn from a late side-bloom, but this is not the case in Nature, the flowers seen by me having been of full size.

“The REV. F. D. HORNER (fig. 3) is a very brilliant Scarlet Flake, much in the style of a fine Sportsman.”—M.

THE CULTURE OF WALL FRUITS.

CHAPTER XVI.—THE APRICOT (*continued*).

ANY cultivators inculcate a free exposure of the fruit to the influence of sunlight, and even go so far as to cut away wood and pinch off foliage, in order to render the exposure more complete. I am inclined to the belief that this practice would be “more honoured in the breach than in the observance.” My opinion is that the practice of severe thinning and cutting away of the wood and defoliation in the summer cannot be too much deprecated, as it is a sure method of developing a strong late growth, which our climate will not ripen sufficiently. The energies of the trees would, I believe, be far more wisely directed to the perfecting and ripening of a good supply of the wood and foliage of the first growth, than in forcing a strong late growth, which, for all fruit-bearing purposes, is worthless, and except that required for filling vacant spaces, would have to be cut out at the winter pruning. For the same reasons, I deprecate defoliation *in toto*, under the belief that the foliage is absolutely necessary to the perfect development of both fruit and wood buds, and that it is quite possible, when nailing-in the wood in July, to expose the fruit quite sufficiently for all

practical purposes, by retaining only the necessary wood to keep the tree well furnished: a trifle over here and there being allowed for contingencies, which would naturally occur to a practical man, and the remainder being either removed entirely, or cut back for spurs, as before advised. The exposure of the fruit should be made a secondary consideration, and by no means should any of the foliage be removed, since that has its natural functions assigned to it, and if these are interfered with, it is no wonder that we have to complain of unripened wood and abortive blooms.

I am also of opinion that the frequent recommendation to thin-out the wood in the autumn, in order that the sun’s heat may assist in the ripening process through its exposure, should be taken with reservation, as I have been led to conclude, from observation, that the leaves play a more important part in the thorough maturation of the wood than is generally supposed, and they should by no means be removed until their natural functions have been discharged, and the trees are ready to cast them off in due course. Then, again, as to the necessity or otherwise of taking extra pains to expose the fruit to the full influence of the

sun ; this should also be taken with very great reservation. I am inclined to the belief that it is a mistaken idea, and that more evil than good results from the practice. Fruit which is fully exposed to the sun will often be found to be thoroughly ripe on the sunny side, and hard and green at the back ; and in the great majority of cases, before the back becomes ripened, the front skin will have been pierced by insects, and thus opened to the influence of dews or rains, which soon cause decay, so that the fruit becomes useless for anything but tarts ; whilst, on the contrary, those fruits which are ripened under the natural protection of the foliage will always be found equally ripened all over, probably because the presence of the foliage prevents a too rapid evaporation of the heat absorbed by the wall during the day.

As regards flavour and colour, which defoliators assign as a reason for the practice of exposure, I have never been able to detect any material difference between exposed and protected fruits—if there be any difference, I should be inclined to give the palm to the latter, as being invariably of an equal degree of ripeness all through ; whereas, the former will have a titbit on the side next the sun, and an unripened back. Again, the delicate colour of the partially shaded fruit, being equal all over, looks better when dished up than the bronzed fronts and green backs of the other.

I advise, then, that the manipulation of the

trees when nailing-in the summer's growth should be carried on without any special reference to the exposure of the fruit. In the course of the operation, some will naturally be exposed and some covered over by the leaves, and no particular care need be taken either way ; but a clean, healthy, and abundant crop of foliage is absolutely necessary to the full and perfect development of the tree in all its parts—fruits as well as wood, and should not be sacrificed to a mistaken theory. Nature does not take any extraordinary means for the exposure of the fruit on trees which are not subjected to artificial restraint, and moreover, the finest fruit is generally found on those trees which have a healthy and abundant foliage. We have a sufficiency of restrictive measures to enable us to regulate the general welfare of the tree in the manipulation of the roots and branches. The removing of the foliage when it is in full action is bad policy, as it weakens the fruit-buds, and interferes more than is necessary with root-action. This is more particularly the case when a tree is very fruitful and inclined to bear large crops ; in such cases, the cutting-away the foliage is suicidal, for the great draught which the fruit then makes upon the roots renders it necessary to encourage as much foliage as possible, in order to assist the action of the roots, instead of retarding that action by its removal.—JOHN COX, *Redleaf*.

THE REV. G. JEANS ON THE PHILOSOPHY OF FLORISTS' FLOWERS.

No. IX.

“*GP* HAVE now brought this essay to a close ; and beg to return my sincere thanks for the courtesy which has borne with its extension to a much greater length than I anticipated. The earlier papers, not from having had more care bestowed upon them, but from the nature of their subjects, are more complete than the later ones, nor have I omitted in them anything I intended to say. The same cannot be affirmed of the portions on auxiliary forms, and on the province of taste, because the principle being fully given, it was unnecessary to lengthen these letters still further by applying it to every case to which it is applicable. The observations on colour require a more ample apology ; for having (with the exception mentioned in the note) been drawn exclusively from the inspection of Nature, and that with very con-

fined opportunities, they cannot claim to exhibit the completeness of a system. As far as they go, however, I have but little misgiving about their correctness.

“That I have made no mistakes in the philosophical elements of beauty in a flower is rather to be wished than expected, but I have taken the best means that lay in my power to make none. Neither can I be a competent judge of the extent to which I have succeeded in my original purpose, but this I hope may be considered as proved, that the pursuit of the florist is as little to be branded as childish, and is not less rational as a recreation, than any other part of horticulture. I do not scruple boldly to avow before the most fastidious, that it is a pursuit not unworthy of a wise man, nor unbecoming a good one ; it is elegant, instructive, scientific, and full of results. And the reader of his Bible may see, and grow wiser by see-

ing, in it another instance of the tenure on which he holds his portion on earth; that the ground and the things that grow out of it do not yield to him their advantages, without the labour of his hands and the exercise of his intelligence.

"I have no wish to place the occupation of the florist above its natural mark, but I am sure that, in itself, in all its branches, it is undeserving of any reproach, unless it be one to feel the beauties God has created for our pleasure, and to draw them forth from the obscurity in which He has hidden them, by the means He has appointed for the purpose. The same objection which is made to cultivated varieties of a natural flower would equally condemn the diamond to remain in obscurity in the mine where God has placed it, and would stigmatise the adventitious splendour it derives from cutting and polishing at man's will as an interference with nature. It may be—we know not; but it is neither impossible nor violently improbable—that before sin entered into the world, when the earth gave forth her increase without labour, the flowers may have spon-

taneously exhibited that standard of perfection, an approach to which the florist now laboriously aims at drawing forth from them. It may have been the same, too, with the harvest of the field and the fruits of the orchard; and that varieties of both, as incomparably superior in kind as superabounding in quantity to anything we now see, may have been on their progress to maturity, to call forth the thanksgiving of pure hearts, had those hearts continued pure. And such may also be in store for a future period. But in the meantime, we know that labour is enjoined, and that not of the hands alone, but of the *brow*; an expression which seems to betoken what is certainly true in fact, that to obtain the riches of the soil, a trial of mental skill is required on the part of man, a putting forth of the resources of his intelligence, to overcome the reluctance of nature to rise up to its capabilities. And whether his ingenuity be exercised on the corn, on the fruit, or on the flower, it is rightly exercised; and the results are additions to the sum of human pleasures, which the Creator himself has not thought beneath His care.

Synopsis of the Essay on the Philosophy of Florists' Flowers.

BEAUTY in a flower is produced by	I. FORM, consisting of outlines, general and subordinate.	1. Absolute, requiring	(1.) Unity: infringed in <i>idea</i> , by a plurality of equivalent parts. In <i>outline</i> , by intervals—by abrupt changes.
			(2.) Variety [effects of straight lines and curves]: of form—of number—of colour.
	II. COLOUR.	2. Relative.	Best dependent on characteristics of the flower and mode of colouring. Actually, hemispherical the most perfect. Other examples.
		1. In General, or separately,	Must be bright, distinct.
	II. COLOUR.	2. In Union; must be in juxtaposition, and mutually adapted; producing,	(1.) Combination, if in natural agreement. And this is distinct, clouded, or compound. (2.) Contrast, if in natural contrariety. Comparison of the two modes.

Province of Taste includes all not restricted by necessary laws of Nature.

IOTA."

AUTUMNAL FLOWERING PLANTS.

WO of the prettiest flower-beds that we had in the gardens here at the middle of October, were filled with early autumn flowering Chrysanthemums and herbaceous Anemones. The Chrysanthemums were planted out in a large oval figure, with *Sensation*, a variegated-leaved sort, at 10 in. apart, as an edging, next to the grass. The colours of four sorts were arranged inside this, as follows,—white, blush, purple, and yellow, the latter occupying the centre. They were all, at that period, a mass of blossom, the stems of the flowering

sorts being completely hidden by the dense mass of variegated foliage, which reaches from the surface to a height of 15 in. The group, when viewed at a short distance off, was most effective.

The other bed was planted with *Anemone japonica* round the edge, as being the dwarfest grower; *Honorine Jaubert*, a white-flowered variety, with reddish stamens, and of Continental origin, was planted next; while the centro was made up with *A. japonica hybrida*, a light purple variety, of garden origin. These three

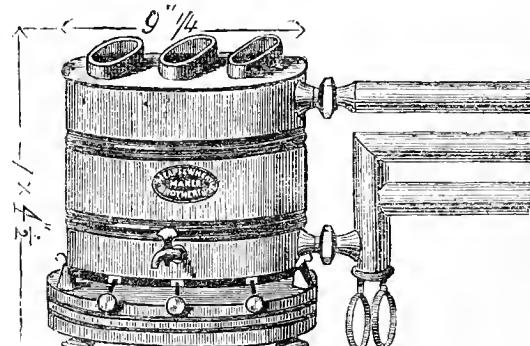
sorts flower at the same time, and make up into a very effective group. They are all deep stringy-rooting plants, and do not like being disturbed, but are found to succeed best by allowing them to remain and to produce their flowering stems from the old stools. The plan we adopt here is to fork out the young suckers in the spring, and afterwards mulch the bed over with a good mixture of rotten dung and leaf-soil. There are some beds here which have been managed in this way for upwards of twelve years, and which flower profusely every season. The modern style of filling up flower-beds annually is a heavy tax upon gardeners, and anything in the way of getting beds filled with permanent plants is generally considered as a relief.—J. WEBSTER, *Gordon Castle*.

PORABLE HOT-WATER BOILERS.

H&WE have lately met with one or two appliances which seem to supply a want which is very often experienced,—that of some simple but effectual means to heat the small greenhouse or conservatory of the amateur. There is no difficulty whatever where the house or houses are large enough to require the use of a properly adjusted hot-water apparatus, and where there is a gardener at hand to see that a fire is made when necessary, and kept burning as long as may be required; but in the small plant structures—attached or detached—which are erected in connection with suburban villas, and where the proprietor or a domestic servant has to take charge of the warming apparatus, the repulsion of frost and the maintenance of a suitable temperature are often troublesome matters.

One of the most promising of these small heating apparatus is Messrs. Heaps & Wheatley's Portable Hot-water Boiler, represented in the annexed figure. This apparatus is heated by petroleum lamps, which have sufficient power to raise the water to boiling point, if necessary. Another similar form of apparatus is now made, in which either petroleum or gas can be used. As the former is not injurious to plants, no special provision is made, or indeed needed, for carrying off its fumes. These boilers are kept in three sizes:—No. 1, the smallest, is made in copper or tin, and has a brass tap, oil cistern, and one powerful burner; the three $2\frac{1}{2}$ -in. pipes

are 2 ft. 6 in. long, of wrought iron galvanised, and connected by brass unions. No. 2 is larger, is made in copper or tin, and furnished with two burners, the pipes 3 ft. 9 in. long. No. 3, shown in the drawing, is made only in copper, and the pipes (shown cut off) are 5 ft. long; this has three burners. At the end opposite the boiler the pipes are connected to an upright tube, the upper end of which is expanded into a vase or funnel, by means of which the apparatus is charged and the supply of water kept up. The openings at the top of the boiler are flues; and when gas is employed, an open-mouthed funnel collects the fumes given off, and conducts them through a pipe outside the house. In the newer form now made, the boiler, with three burners, stands in the centre, and on each side is a stack of three pipes, 2 ft. 6 in. long, the ends of which are inserted into two



HEAPS & WHEATLEY'S PORTABLE HOT-WATER BOILER.

upright tubes, of which one has an open funnel for feeding, both stacks being connected with the boiler by two brass union joints.

This firm has also a heated plant-case, or propagating frame, which we shall describe at some early opportunity.

Another useful contrivance for the same object, and one which is perhaps more suitable for the smallest-sized houses, or for merely excluding frost, is provided in Tebbs' Universal Heating Stove, which is adapted for petroleum, gas, or other fuel. Mr. Tebbs describes his apparatus as "an original, safe, and economical means by which the greatest amount of heat can be obtained with the smallest amount of fuel, requiring little or no attention for twenty-four hours, and giving off nothing but pure heated air." This is obtained by bringing any number of pipes or tubes into one body, arranging them nearly close together, and allowing the smallest space between each for the circulation of hot water on their outer circumference, retaining

the inner circumference for the heating of the atmosphere as it ascends. The pipes or tubes are thus kept at the same high temperature with a considerably less quantity of water, thus heating the air more rapidly as it ascends through their inner circumference. A rapid and continuous circulation is also maintained, by means of an outer pipe or tube connected with the body at its lowest point and highest centre, upon which is attached a chamber to allow for expansion; and by means of a short tube placed vertically therein, and passing through it at its base, and rising above the water-level, a current of air is allowed to ascend, which, coming in contact with the steam, condenses it more rapidly, thus preventing any waste of water and the possibility of the upper tube becoming empty; this also acts as an overflow, in case too much water has been put in.

Usually petroleum or one of the mineral oils is used; but when gas is burnt, a chamber partly filled with water is so placed that the whole of the burnt or hot air given off in combustion is conducted over the surface of the water, by which it becomes purified, so that it is not either injurious to health or vegetation. This can also be had fitted to the petroleum stove, if desired. These stoves can be made in any size or shape.—M.

PLANT-GROWTH IN DARKNESS.

PROFESSOR RAUWENHOFF has recently published in the *Archives Néerlandaises* the results of his researches into the causes of the abnormal development of plants grown in darkness, of which the following is a summary:—

“The abnormal elongation of stems is partly to be attributed to an excessive growth of the pith, combined with an imperfect development and slight thickening of the elements of the vascular bundles. The anatomical difference between green and blanched stems is especially apparent in the slight thickening of the walls of the epidermal, woody, and liber cells, in the number and radial dimensions of the vascular bundles, the absence of the sheath in the vascular bundles of monocotyledons, and the relatively greater development of pith. The defective thickening of the cell-walls is not, as has been supposed, due to the absence

of the colouring matter of chlorophyll, because the walls of the pith-cells are often very thin. Moreover, the parenchymatous cells of the bark and epidermis sometimes attain an extraordinary size. The preponderating influence of the pith is, however, not the sole cause of this abnormal elongation, since it is also traceable to other sources, including the whole fundamental tissue collectively—to the bark as well as to the pith, since hollow stems also exhibit this extraordinary elongation in darkness. The vertical position of blanched stems is determined by the absence of heliotropism.

“In a word, the anomalies presented by stems grown in the dark are the effect of negative geotropism, uninfluenced by heliotropism, and favoured by the slight thickening of the cell-walls; because growth, that is to say, the division and enlargement of cells, is not dependent on the presence of light, but proceeds, often by preference, in the dark; because negative geotropism acting on a stem in active growth induces vertical elongation; and because heliotropism retards growth, as inflection is the consequence of feebler longitudinal growth on the side turned towards the light. The cause of the inequality exhibited by different plants with regard to elongation in the dark is probably owing to diverse degrees of turgescence of the cells, and the relative tension of the tissues. Etiolated leaves differ anatomically from green leaves of the same size not only in the absence of chlorophyll and starch—except in the cells of the stomates, which always contain abundance of starch—but also in the slight thickening of the walls of the vascular tissue, and especially in the non-development of spongy parenchyma.”

THE ABEC AND EARLY PURPLE PEACHES.

WHEN planting fruit-trees of any kind, it is of the greatest importance to have the varieties true to name; but it sometimes happens that we may get varieties the very opposite of what have been ordered, or desired—early kinds turning out to be late, and *vice versa*. This is a state of things one must make the best of when the mischief is done. But it sometimes happens that one is advised to plant new fruits, not proved, and also to give others a trial which have proved to be all that can be desired elsewhere. I have more than

once yielded to suggestions like these, but never with more satisfaction than when advised to plant the *Abec* and *Early Purple Peaches*. They have been spoken of favourably during the past summer, and after a two seasons' trial, I can bear witness that on both occasions the fruiting has been equal to all that I had read and heard of them. One may, therefore, be excused for giving praise where it is so well due. Two years ago last August, these kinds were planted, along with others, from pots. After passing the summer under rather rough treatment, the glass structures not being ready to receive them, they were carefully turned out, and the roots which had coiled round the sides of the pots were carefully undone. Little growth was made by the wood after August, but the roots laid hold of the soil, which had been rammed as firmly as if it had been for a floor, and spread several feet under the surface. The wood ripened like whalebone, and after the buds were thinned, all that were left set the following spring, so that the house was half-cropped within the year, all being cleared by the middle of August.

The wood had grown rather strong, which necessitated lifting, to check growth. This was done about the end of August with about two-thirds of the roots; no foliage dropped, but remained on the tree till October. The wood being nearly red and the buds plump, the trees were pruned. The past season has been one of the best in my experience, for crop and quality—the former left heavy, to equalise growth, and the latter being aided no doubt by the month of powerful sun and dry air experienced during part of June and July, which acted so favourably on the ripening process. *Abec* was the first to supply ripe fruit, and in the course of a week or so *Early Purple* (large, with purple skin next the sun, and shaded with bright crimson towards the tree) came in as a capital succession; *Bellegarde* and *Royal George*—two of the best second earlies—coming in to succeed the former at the right moment. A small tree of *Princess of Wales* supplied a few dozens of large fruit, till the succession-house gave supplies at the end of July. There may be earlier kinds than *Abec* and *Early Purple*, but I have seen none more useful.—M. T.



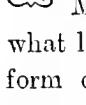
MACROZAMIA MACKENZII.

MACROZAMIA MACKENZII.

 THIS is a very ornamental plant, as the accompanying figure sufficiently indicates. It is one of the handsome new Cycads which have been met with in the recent explorations of the Australian continent, having been discovered in Queensland, whence Mr. Bull has successfully imported it. It has a low bulbiform or ovate trunk, from whence a fine head of leaves is put forth. These leaves are oblong-ovate in outline, and of a dark green colour, and are made up of numerous narrow tapering segments of from 9 to 10 in. in length. These leaves assume a gracefully arching form, and form together a very elegant crown to the trunk. The rachis is strongly developed at the back of the leaf, slightly so in front, the segments being set on at about half an inch apart along the central portion, the upper ones being more closely and the lower ones more distantly placed.

As an evergreen greenhouse plant of long-enduring character, this and several kindred Cycads are invaluable for the continuous decoration of cool conservatories; and being of easy culture, it is somewhat surprising that they are not more commonly thus employed. They are indeed somewhat slow in development, and therefore a well-established specimen should in the first instance be secured, but when they are once obtained, they may be looked upon as objects of perennial beauty.—T. MOORE.

MARKET PLANTS.—IX.

 STOKESIA CYANEA AND BERRIED SOLANUMS.  **T**HIS is but few market growers who take Stokesia cyanea in hand. At Edmonton, Messrs. J. and J. Hayes grow it somewhat largely, not to market in pots, but in the form of cut flowers, and find it to be a very remunerative article. This fine South-Carolinian perennial has become lost to many gardens, and it was with peculiar satisfaction I marked a large patch of it at Edmonton, grown for the purpose named above. It is a stout free-growing plant, but except in the most favourable positions does not expand its flowers in the open air, in consequence of the late period of the year when they are put forth. This late-flowering property makes it useful for market work, as the plants are grown in the open ground all the summer till August; they are then lifted and potted in 18 and 24-

sized pots, according to their size, and then put into a cold house, to open their flowers. A sufficient number of plants are grown to admit of a supply of flowers being had from September till Christmas. In the market they find a ready sale, being blue in colour, showy in appearance, and something like those of a China Aster.

Increase of the *Stokesia* is made by dividing the plants in spring, breaking up the strongest into four or five pieces, the smaller plants into less, and planting them out in some good light soil for the summer, to grow into size. Sometimes the plants are kept all through the summer in the pots in which they bloomed, but they are best divided, and planted out as above described.

BERRIED SOLANUMS are grown for market to an extent that would be surprising did not their great value as decorative plants in winter indicate something of the many uses to which they can be put. There are many growers who send Solanums to market, and the number they grow depends on the accommodation they can afford the plants, and the connection they have in the way of buyers. Messrs. J. and J. Hayes grow annually from 10,000 to 12,000 plants, and it is an interesting sight to see these about the end of July. In one large airy house—one of those houses that are constructed solely for the growth of plants, and not for the mere purpose of showing them off—on the broad centre stage and on the side stages, some 3,000 to 4,000 plants were arranged, a large number in 5-in. and a goodly quantity in 6-in. pots. The plants were in flower, and were kept here till they had set their berries, when they were all stood out in the open-air to colour; and the earliest to do this are sent to market as soon as they are ready. A remarkable feature about these plants was the even growth of this large number, congregated in one house; they averaged nine inches in height, were of a bushy form, and developing into finely furnished plants. The growers of Solanums select their seed-plants with great care, preferring those with a nice, even, short-jointed growth, a little spreading towards the outside, so as to display the berries to the best advantage. All types with the berries hidden among the leaves, or with small berries, are set aside, as not worthy of being grown. By acting in the way, a capital strain is secured, and it must be admitted that the market growers are most zealous in getting the very finest strains of everything they grow. Quality has its value fully appraised in the market.

The great bulk of the plants are raised from cuttings. It is best in practice to obtain stock in this way. Old plants put into warmth in January put forth an abundance of shoots, and

these are made into cuttings in February and March, a number being put into pots, and placed in bottom-heat, when they soon root. They are then potted on, shifting as required, and being gradually hardened off. It will be observed that the market growers keep their plants under glass until the berries are set. This differs from the practice of some growers, who put their plants out in the open ground early in the season. The market growers will be good judges of practice, and the system they adopt is one well worthy of being generally followed.—R. DEAN, *Ealing, W.*

THE MODEL GARDENER.

THE Model Gardener is, in general, a respectable married man, and if he has to advertise for a situation, he is not ashamed of stating how many olive-branches—"incumbrances" they are sometimes called—he cultivates. He has a thoroughly practical knowledge of his profession in all its branches, but does not include looking after a horse and chaise, or milking cows, in this category. He has a horror of single-handed places, or even of those where only a man or two are allowed as helps. He never wears a blue apron, except when potting pines, or when one is necessary. He is never "frozen out," for his fertile mind always plans out plenty of work in-doors. He has a great antipathy to weeds, and to see groundsel and chickweed growing and running to seed is his especial dislike. Blackbirds and thrushes, amongst the feathered tribes, he keeps within bounds, believing that he pays too dearly for their whistling in the spring, when they devour his finest cherries, currants, and gooseberries in the summer. He never reads the hashed and rehashed articles in the gardening papers, written by *beardless laddies*, on vine and peach-growing, and on making soils and borders for these fruits. If he looks for information on these matters, he consults the opinions of experienced men, eminent for their successful cultivation of these fruits. He never parts with the produce of his garden without his employer's consent, not even to eke out a scanty salary. If he gets the great boon from his employer of a week or two's holiday to London, to see some of the great flower and fruit shows, he makes the most of his time, in visiting the parks and gardens, and in making notes of the bedding plants and their most

artistic combinations. He is studiously neat and clean in his personal appearance, and a sworn enemy to any excess, publicly or privately, in intoxicating drinks. He tries to give his children as good an education as his means will warrant; and if they are sons, he is anxious for them to acquire a little Latin, to make them adepts in botanical nomenclature. He rarely mixes with the other upper servants in the establishment, for he has a well-grounded idea that his intellectual attainments are superior to theirs, and that their conversation is mostly on sporting affairs, or on other frivolous matters, which he does not, nor wishes, to understand. He is an early riser, and every day, by observation or experiment, adds some useful fact to his stock of knowledge.—WILLIAM TILLERY.

[These somewhat quaint utterances of our friend, Mr. Tillery, are meant to be suggestive to the younger members of the fraternity, who if they follow in the track above indicated with any reasonable amount of intelligence and assiduity, will generally find that it leads on to an honourable and respected position.—ED.]

THE PANSY AND THE PINK.

OF two modest, sweet, and pretty flowers are wanted, I would recommend the above old-fashioned and hardy subjects. They are easily cultivated, succeed in almost any garden soil, and are also adapted for any style of garden. These two flowers I was passionately fond of when a boy, and although almost every class of florists' flowers has claimed my attention since then, the old love for these is still strong.

We had a bed of seedling Pansies at Loxford Hall last year 60 ft. long, which was much admired by visitors. The seeds were saved from good varieties, and the mass of flowers was charming in its infinite variety; no two of the many hundreds of plants had flowers exactly alike. The bed of Pinks ran parallel to this, and was of the same length. At the time when the plants were in flower the bed was indeed beautiful, but it had the fault of not lasting long in flower. The beds of Pinks are at their best about the 20th of June, and flowers can be cut any day during a period of six weeks. Many persons may say—Why write about such easily grown plants as these? I reply that





Miss E Regel del

Peach Golden Rathripe.

though easily grown, their culture is not generally understood; and certainly the results of the efforts made to grow them which one sometimes witnesses are not entirely satisfactory.

Let us take the Pansy first, and explain in a few simple remarks the method to be followed to obtain the best results. Propagate by slipping off the slender growths that are to be found at the base of the plant in October, or even in November; these will be the best adapted for spring flowering. The slips will have small hair-like roots attached to them, and they will soon become established. If the plants can be wintered in a cold frame, so much the better; if not, they must be planted out as soon as they are established. In order to obtain a continuous and good bloom, the soil must be amply trenched, and if it is light, with a dry subsoil, plenty of rich cow-manure must be worked-in during the operation of trenching. A heavy wet soil is improved by mixing leaf-soil or road-scrapings with it, and using stable-manure, as being the driest and lightest. The plants should be put out about one foot apart, and as growth is made, the shoots should be pegged down to the surface of the ground.

The Pansy is well adapted for pot culture, since its sweet-scented flowers can be obtained by the aid of a cold frame placed in a sunny corner in February and March; but to obtain early flowers, it is desirable to propagate the plants in August or early in September. Pot

them two plants in a large 60-sized pot, and when the soil has become quite permeated with roots, repot into their blooming-pots. Six-inch pots are best to flower them in, and the soil should be four parts rich loam, one part leaf-mould, and one part rotten manure,—cow or stable dung, as the loam may be light or heavy; river-sand, too, should be added, if the compost is not open enough. The plants should be placed on a stage, quite close to the glass. It will be necessary to look to them at night, as slugs are very partial to the leaves and flower-buds, and they will be found feeding at that time, and must be destroyed. Green-fly may be killed by fumigating the frames with tobacco-smoke, or dusting the plants with powdered tobacco.

The Pink requires similar attention to the Pansy, in order to produce masses of its flowers from young plants. As with the Pansy, young plants have to be propagated annually, but the slips, or pipings, as they are called, have to be put in earlier; late in June or early in July is the best time. In my youthful days, in Scotland, I used to plant the pipings on the shady side of a hedge or gooseberry-bush, and they rooted freely in that position, without any glass protection; but in the warm, dry climate of the South of England they require a glass frame to root in, with a little bottom-heat. The plants should be put out in the open ground early in October, the soil being prepared for them as for Pansies.—J. DOUGLAS, *Loxford Hall, Ilford*.

THE GOLDEN RATHRIPE PEACH.

[PLATE 481.]

HOSE careful gardeners and skilful men of business, the Dutch, laid the foundation of a very pleasant and profitable commerce, when they introduced the cultivation of the peach in their knickerbocker colony of New Amsterdam, little thinking, perhaps, of the enormous extent of territory over which Peach orchards were ultimately destined to stretch. Almost abandoned in the States originally planted, Peach culture in the Southern States has risen to national importance. Steamers and railway cars are freighted solely with Peaches, when the harvest is at its height. As the simplest and cheapest method of planting is by sowing seedlings, many orchards have been raised by economists from seed alone, and the consequence has been

that innumerable seminal varieties are extant in the States. In the race for a good price, early-ripening varieties are eagerly sought for. Since the discovery of the Early Beatrice Peach, which was largely popular, from its excessive precocity, many early sorts have been "edited" and put into circulation, but it still remains to be proved whether these varieties have beaten the prototype.

Among the orchard sorts of America, the large yellow-fleshed peaches have been distinguished by more favour than they have ever had in England; and the GOLDEN RATHRIPE, of which a figure is given, is one of the best of the early yellow-fleshed sorts. It is very large, very juicy, and possesses a distinct flavour. When well grown and well ripened,

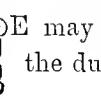
there is something very remarkable in the rich apricot-like flesh, although deficient in the peculiar and delicate aroma of the pale-fleshed sorts. On the dessert-table the golden brown and brilliant yellow hue of the skin form an agreeable and handsome contrast. Although not of high rank enough to devote a trellis to its cultivation, it is quite worth a place among the pot-trees of an orchard-house. The Crawford's Early Peach is hardly to be distinguished from the Golden Rathripe. In appearance and period of ripening the two are twin Dromios, but the Golden Rathripe is perceptibly superior in flavour. The American orchardists have adopted the name Rarripe to indicate early ripening, preserving in "rare" the old English word "rathe."

"Bring the rathe primrose that forsaken dies."
—LYCIDAS.

—T. F. RIVERS, *Sawbridgeworth*.

[We are indebted to Mr. Rivers for the materials whence our plate is derived.—ED.]

VILLA GARDENING FOR DECEMBER.

E may be said to have subsided into  the dullness and rest of winter:—

"Through leafless boughs the sharp winds blow,
And all the earth lies dead and drear."

But the winter never brings entire respite from work for the gardener; even when ice-bound and snow-bound, there is always some genial work to do, and some necessary lesson to learn.

STOVE AND WARM GREENHOUSE.—It is surprising how gay some foliaged plants are at this season of the year, and especially Crotons and Dracænas. Quite young plants of the former take on a superb colouring at this period, and their richly-marked leaf-tints are all the more acceptable, because flowers are somewhat scarce even in heated structures. These, if placed among green-leaved plants, have a charming effect. The pretty red *Sonerila margaritacea* is a sweet plant for flowering in a stove during December and January, and there are two or three varieties of it, with well-marked leaves, that are useful also. *Calanthes* and the chaste *Odontoglossum Alexandræ* will bloom well now; the latter will bear cool treatment. *Salvia splendens*, *Euphorbia jacquinæflora*, *Eranthemum pulchellum*, *Plumbago rosea*, *Eucharis amazonica*, and others will be in flower; and *Azaleas*, *Roses*, *Cinerarias*, and other winter-flowering plants that have been properly prepared will be

coming on to succeed them. There is now a large choice of winter-flowering plants, and the villa gardener, with limited accommodation, can make a selection to suit him. In an intermediate house, *Heaths*, *Chinese Primroses*, berry-bearing *Solanums*, *Zonal Pelargoniums*, &c., can be made very pretty. The following rules have been laid down for amateur gardeners to observe in their stoves during the dullest month of the year:—"Examine the plants thoroughly, and spare no pains to have them thoroughly clean and free from insects. By judicious alternation of flowering and foliaged plants, the house can be made nice and gay. Pick off any decaying flowers and leaves. Tie and train plants. Keep the house dry and clean. Water thoroughly when wanted, and always in the forenoon. In mild weather give fire-heat sparingly; the night temperature should not be allowed to fall below 60°."

COLD GREENHOUSE.—*Chrysanthemums* in pots are now yielding excellent service, and being late on the whole, they are coming in well to succeed the out-door flowers so mercifully preserved to us beyond their usual time. For a cold house, it is usual to disbud *Chrysanthemums* freely, when the leading buds get well into flower; the side-buds rarely expand. The cold nights and short dull days are having their effect on *Abutilons*, *Pelargoniums*, &c., and they are gradually ceasing to flower. Now comes into play the berried *Solanums*, with their bright coral-red fruits, invaluable to the villa gardener for their pretty effect, and their usefulness for placing on the table. These *Solanums* will hold on till the end of January, and then some of the earlier *Bulbs*, *Primroses*, &c., will be coming in to take their place. Mice will sometimes play sad havoc with *Solanum*-berries, and their attacks should be guarded against.

The beauty and usefulness of *Chrysanthemums* can be prolonged by giving the pots a slight dressing of some patent manure; a guano will answer the purpose. A little should be spread over the surface, and washed down to the roots when water is applied. Plants should now be watered very carefully, doing it in the forenoon when the sun is out, to dry up the shelves and stands quickly. Give air in fine genial weather, but do not allow cold currents of air to pass into the house. Flowering plants should have the warmest and sunniest place. Keep the house as clean and tidy as possible, so that chances of harm from damp may be minimised.

FLOWER GARDEN.—Slowly but surely the bloom and beauty of the flower garden is receding before the approach and attacks of frost and damp. What is to be done with the beds that have been wholly filled with tender plants? If there is nothing to put in their place, the best thing to do is to dig

them and lay them up rough for the winter. If they can be filled with *Daisies*, *Wallflowers*, *Silene*, *Pansies*, *Violas*, and such spring-flowering things, they will give the beds a furnished appearance, and be pretty in spring. Or the beds can be filled with dwarf evergreen and variegated shrubs. Anything, almost, is better than bare beds; but if they are to be bare, let them be kept as neat as possible. All the leaves possible should be collected and put aside to decay and form leaf-mould. It will come in very handy for potting purposes, or for top-dressing plants in beds. As soon as the leaves are down, the flower-garden should be made tidy in all its parts, and any alterations required be carried out.

KITCHEN GARDEN.—Some *Seakale* and *Asparagus* might now be forced. The best practice is to make up beds under a frame, and towards the end of the month the roots can be taken up, a few inches of soil put on the bed, the roots being placed on it, and the spaces between them filled in with soil. *Rhubarb* may be similarly treated. A little *Mustard* and *Cress*, sown in pans or shallow boxes, can be raised in the frame, which should be covered on cold frosty nights.

FRUIT GARDEN.—*Fruit Trees* should be planted without delay. *Pruning* may be done at any time, when the weather is suitable. Standard *Apple* and *Pear* trees should be kept well open in the centre, taking out strong upright leaders and branches that cross each other. In cases where the bark is open, it is well to give a good dressing of some suitable material to destroy the larvae of insects. The leading shoots of pyramid trees may be shortened back, to impart vigour to the buds. Many little things will suggest themselves to be done in winter. A general cleanliness is of the highest importance.

SUBURBANUS.

GARDEN GOSSIP.

MONGST the AMERICAN POPLARS, Professor Sargent recommends strongly as worth a trial for planting streets or avenues the following:—*Populus Fremontii*, of Western Nevada, and *P. trichocarpa*, of the same region and California. The former he describes as by far the handsomest Poplar he has ever seen. It is very much planted as a street tree in Leeson city and other towns in that part of Nevada. In Salt Lake City the Mormons generally plant *P. angustifolia*, which is also a good street tree, but less ornamental, Professor Sargent thinks, than either of the others. *P. tricuspidata* is the common Poplar of the Yosemite valley, where it makes a very handsome tree. All these Poplars, he adds, grow so very fast, that more might be done with them than people seem to think.

— A very good meeting of the ROYAL HORTICULTURAL SOCIETY was that of November 19, the principal features being Chrysanthemums,

Hardy Shrubs, Dracænas, Orchids, Vegetables, Pine-apples, and some splendid Apples from Leonardslee. Mr. A. Waterer had a First-class Certificate for *Ilex Aquifolium scotica aurea*, a brilliant golden-edged form of the hardy variety called scotia; and also showed two very pretty Hemlock Spruces, *Abies canadensis pendula*, and *Abies canadensis variegata*, which were not certified, the former of a distinctly pendulous habit, and the latter rather dull-looking at this season, but in early summer having all the tips of the branches pure white, looking at a short distance as if hung over with little white bells. *Calanthe Sedeni*, from Messrs. Veitch and Son, had a First-class certificate; the vestita-like flowers are of a superb rose-colour. The same award was made to *Odontoglossum Alexandra Perrini*, from J. Perriu, Esq., of Malvern, a very handsome form, in which the sepals and petals were bordered with deep rosy-purple; and to *Chrysanthemum M. Crousse*, shown by Messrs. Jackson and Son, a Japanese variety, the florets of which are of a Spanish-red in the upper half, and cream-coloured towards the base, being distinct and novel in character.

— **THE ZEPHIRIN GREGOIRE PEAR** is, writes Mr. Saul, of Stourton Park, “a great acquisition to our list of late Pears; it is a fine, rich, juicy, melting pear, and is in use in December and January. The tree grows freely on the pear-stock, and makes a beautiful pyramid. It is quite hardy, and generally bears well.” (See figure in FLORIST AND POMOLOGIST, 1863, t. 222.)

— **AT** the meeting of the Committee of the NATIONAL ROSE SOCIETY, on October 22, the Rev. Canon Hole in the chair, the dates for the exhibitions for 1879 were fixed, subject to the approval of the annual meeting,—the first show to be held at the Crystal Palace on June 28, the second at Manchester on July 14. The accounts showed a balance in favour of the society.

— **MR. HARRISON WEIR** states in the *Gardeners' Chronicle* that the flower-buds of the BEGONIA FUCHSIOIDES, besides being valuable from a decorative point of view, may also be made useful in the culinary art. It seems that the unexpanded blossoms have “a delightfully acid flavour,” and that when cut up small and sprinkled over a salad, both the appearance and the “tone” of the toothsome relish is greatly improved. We (*Gardeners' Chronicle*) were not previously aware of the flowers being used for such a purpose, but record the circumstance on the authority of Mr. Harrison Weir.

— “**TALKS ABOUT PLANTS**” (Griffin and Farran) is the title of a little book, written by Mrs. Lankester, and designed to excite interest in the rising generation concerning the wild flowers they may meet with in their country rambles. It is written in the conversational style, and is well adapted for its special object, which is not exactly that of teaching botany, but of creating an interest in the study of botany, and so leading on to a desire for more ample knowledge. It is divided into twelve chapters, one being devoted to a “talk” about a few of the more prominent wild flowers of each month, in the course of which a good deal of interesting, popular, and botanical information is conveyed. There are six coloured groups of flowers, not over well done, and several woodcut illustrations.

The tone of the book is excellent, and the information given is quite calculated to excite and hold the interest of the youthful student.

— **T**HE name of *CONOPHALLUS TITANUM* has been proposed for a gigantic Sumatran Arad, which must rank amongst the most extraordinary of plants yet discovered. It was found by Dr. Beccari, an Italian botanist, and seeds sent over to Florence have already germinated. The tuber is nearly 5 ft. in circumference. From this tuber one leaf is produced, the stalk being 36 in. in girth at the base, and 10 ft. in height; its surface smooth, green, with numerous small nearly orbicular white dots. The three branches into which it is divided at the top are each as large as a man's thigh, and are several times divided, the whole leaf covering an area of 45 ft. in circumference. The spadix of a plant found in fruit had the fruit-bearing portion cylindrical, 20 in. long, and densely covered with olive-shaped fruits of a bright red colour.

— **F**INE little specimens of *STEPHANOTIS FLORIBUNDA*, in small pots, loaded with blossoms, are offered for sale, during the spring, in Covent Garden Market. They are grown in 6-in. pots, and trained round a few stakes. Plants of this description are exposed during summer and autumn to plenty of air and sunshine, in order that the wood may get thoroughly ripened. They are shortened back and brought gently on in spring, and nearly every break produces a flowering shoot.

— **T**HE New Arctic Saxifrage, *SAXIFRAGA FLAGELLARIS*, a native of Arctic America, has been blooming lately at the York Nurseries, and is a distinct and highly interesting addition to our alpine rarities. It forms dense rosettes of obovate glaucous leaves of thick texture, beautifully ciliated with spiny teeth, or strong viscid glandular hairs, the whole surface looking "frosted" to a larger or smaller extent. The flowers are solitary at present, though from one to five flowers are borne on the stalk, rather large, bright yellow, spotted at the base of the petals with orange, in the style of *S. Hirculus*. From the axils of the leaves slender stolons, 1½ in. to 2½ in. long, are emitted in all directions, which root again at the extremities, and produce fresh rosettes.

— **M**R. GRIEVE, of Culford, has found that *TORENIA FOURNIERI*, referred to by him in our volume for 1877, forms an exceedingly beautiful bedding plant. Some examples of it put out-of-doors at Culford in the early part of last June, though for a time checked by very dry weather, grew vigorously on a change taking place, and were in full bloom the first week in September. They are, he says, very beautiful, dwarfer and more robust in habit than others growing in the plant stove. This Torenia may be propagated by means of cuttings, but they are apt to damp off in winter, and plants raised from seed are to be preferred.

— **T**HE LARGE-FLOWERED SEMIDOUBLE PELARGONIUMS, so called, are of much value for flowering early in the spring. To have them in bloom thus soon, however, propagation must take place early in the year previous. They must have plenty of time to acquire strength for the wood to become firm, and for the roots to well fill the pots before the winter. The cuttings should be struck about the time they

are coming into bloom, when the tops of the young shoots, if moderately firm, will strike freely in a brisk bottom-heat. They should get their last shift into 5-in. pots about the first week in August, and the last stopping not later than the third week in that month. The most desirable varieties are—*Album plenum*, white; *Beauty of Ooton*, maroon and crimson, with white margin; *Captain Raikes*, crimson marked with black; *Elephantissimum*, vermilion, with white crisped margin; *Queen Victoria*, vermilion and white; and *Ville de Caen*, dark crimson, with maroon markings.

— **E**N reference to the hardiness of *CLEMATIS INDIVISA*, Mr. A. O. Walker, Nanty Glyn, Colwyn Bay, Conway, states that notwithstanding snow-storms and cold winds, *Clematis indivisa* has been in full bloom on the side of his house facing S.E. and unprotected; it had hundreds of flowers expanded, and was a most beautiful object.

— **E**N a paper on the FLOWERING OF *AGAVE SHAWII*, Dr. Engelmann records the rate of growth during the day and night in the flower-stalk of this species. The growth from 7 p.m. to 7 a.m. was uniformly larger than that from 7 a.m. till 7 p.m. The total growth for a period of sixty days was 46½ inches, of which 27½ inches took place in the night, and 19½ inches in the day, the greatest advance being made about the middle of the period. Temperature appeared to have but little influence on the rate of growth.

— **T**HE most remarkable SPANISH CHESTNUT TREE known in England, and perhaps the oldest, if not one of those originally introduced by the Romans, is, according to the *Journal of Forestry*, the gigantic tree at Tortworth Court, the seat of Earl Ducie, in Gloucestershire. It grows on the north-west slope of a hill, on a rich, loamy clay, and is said to have been called the "great tree of Tortworth" or "great chestnut" in the reign of King Stephen. In 1820 Strutt gives it a circumference of 52 feet at five feet from the ground, and the contents he puts at 1,965 cubic feet. Later measurements make it about 46 feet in circumference at the top of the swell of the roots.

Obituary.

— **M**R. JAMES McNAB, Curator of the Royal Botanic Garden, Edinburgh, died on November 19, in his 68th year. He was born in 1810 at Richmond, Surrey, and in his younger days visited Canada and the United States. Subsequently he had the management of the then adjacent, now annexed, gardens of the Royal Caledonian Horticultural Society, and on the death of his father, in 1848, was appointed to the care of the Royal Botanic Garden, in which, in fact, the greater part of his life was passed, successively as apprentice, journeyman, foreman, and finally curator. The high position which the garden has attained under his management bears evidence to the zealons and skilful manner in which his duties have been discharged; while, in reference to his personal qualities, those who have known him personally will deeply mourn the loss of a true-hearted friend. Mr. McNab was one of the founders of the Edinburgh Botanical Society, of which, in 1872, he was President. A sketch of his career, accompanied by a portrait, will be found in the *Gardeners' Chronicle* for 1871, the portrait being repeated with the obituary notice published in that journal on the 23rd ult.







